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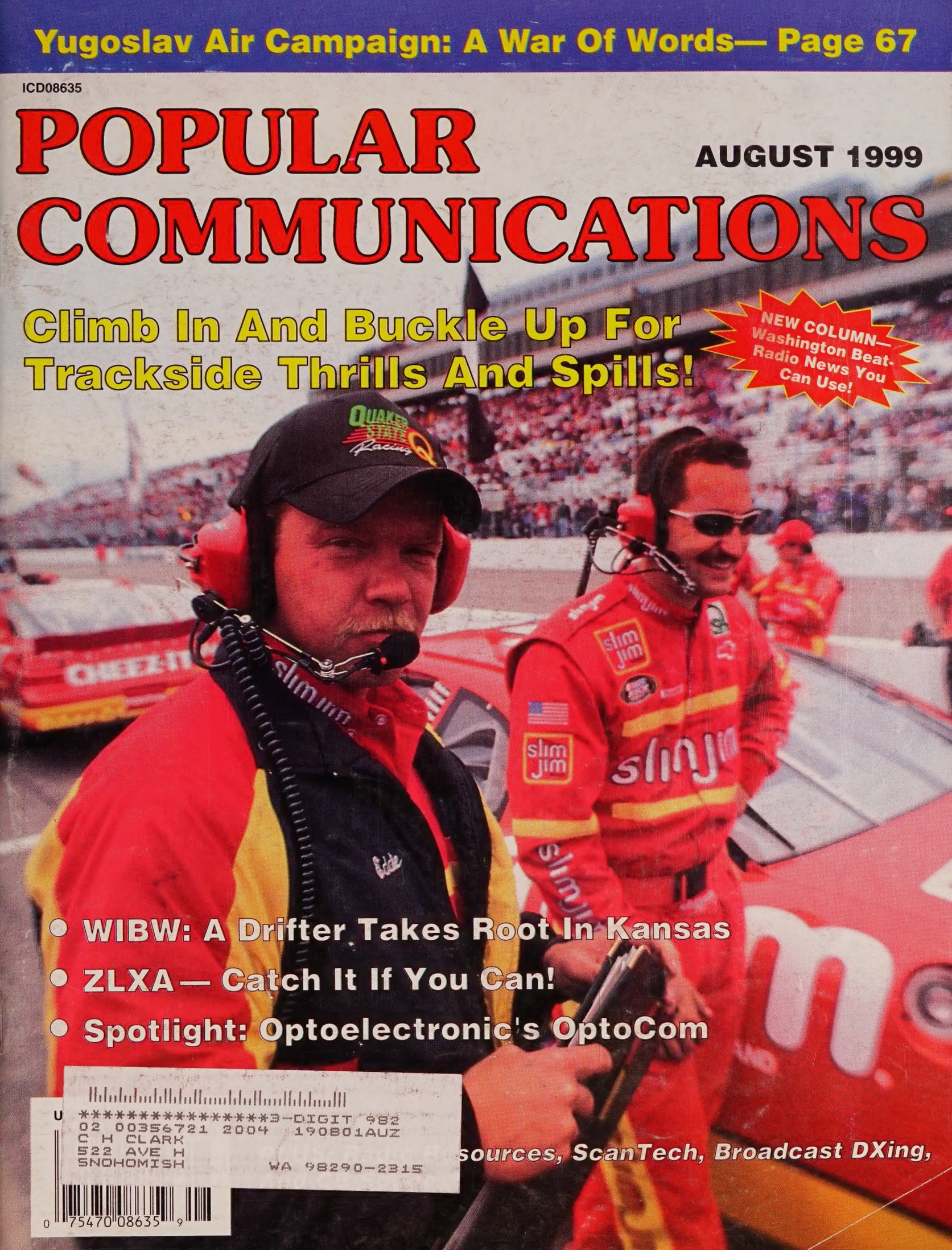

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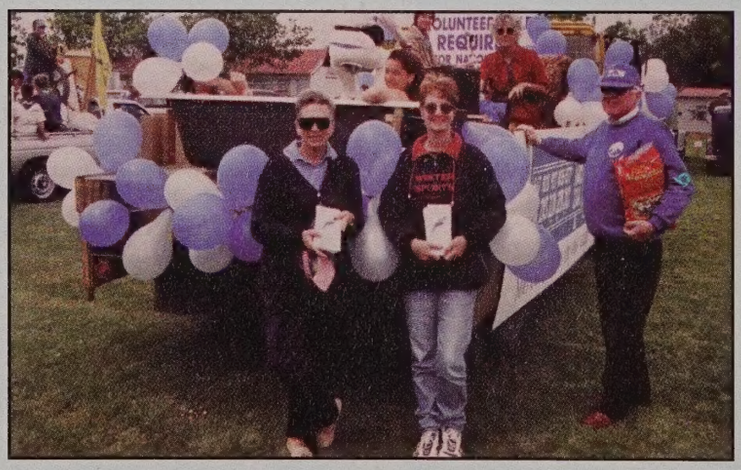

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Tuning In

AN EDITORIAL

BY HAROLD ORT, N2RLL, SSB-596

Saying Goodbye To Don Patrick

As I write these words in late April, the radio hobby — particularly CB — has just lost an outstanding person. Don Patrick, our "Old CB Shack" columnist lost his battle with cancer on April 28th.

Don was a long-time broadcast engineer, keeping stations on the air and getting many stations up and running after severe thunderstorms and equipment failures. He owned and operated Patrick Electronics and Communications, Inc. for 37 years. He wrote a column for our former *CB Radio* magazine and has been with *Pop'Comm* nearly three years.

I never met Don. He lived in Arkansas and I in New Jersey — worlds apart, you could say. But the common bond we shared was a love of radio. He never understood why anyone would live in the "crazy northeast," and I never understood what was so attractive about Arkansas in the hot, endless summer. So we'd go back and forth about it from time to time, both of us knowing darn well he was usually too sick to take in a hamfest where we could exchange barbs and radio stories over lunch.

Most of the time Don would call or E-mail me, talking about his next column and then he'd ask about the deadline. I suppose having a bi-monthly column is a bit different from sending in a regular monthly column. For some reason, he could seldom keep his scheduled months straight. Then of course, he'd call, and confuse me. After a couple of calls and E-mails, we'd both get it right, and then, like clockwork, his column would inevitably arrive on time — if not early.

I was always envious of Don. He had the knowledge (like my old man once said about another broadcast engineer, Dick Stewart: "He's forgotten more than we'll ever know about radio."), tons of old CB equipment, books, and neat radio stuff. He'd talk about 30-year-old Couriers, Trams, Brownings, and Polys like they just came off the assembly line last week. If they didn't work, he'd fix 'em. And in his bi-monthly column, he helped countless avid CBers — oldtimers and young folks alike — re-build many of those old relics. Interestingly, his column brought a surprising amount of mail.

I've got a file folder on all of our writers with their bios, some administrative paperwork, and handwritten notes I've made over time. Don's folder has a few more things in it than most; E-mail exchanges, some jokes, and even inspirational words he had sent over the past few months. I didn't open the folder this week, although I intended to after I received the call we all knew was coming.

Despite the fact that Don and his friends knew the end was near (his doctors had given him a couple of months earlier this year), he kept the faith, trying different remedies, and seeing cancer experts. He also kept working and answering reader's letters until it became impossible. Here's a guy who was dictating the column to his wife a week before he passed away! I don't know any writer who can top that!

Two days before Christmas, he lamented that while the news for him lately "hadn't been particularly good," he said that a few folks he knew that were thought to be in good health had recently passed away. He said at the time "I guess that things could be worse, so I have no complaint." In retrospect, I guess Don was right on the mark: things *could* be worse.

In his last E-mail to me, he proudly said, "I'll try to finish and send you the next column on Monday." The note ended with the word "Luck." And wouldn't you know it — the envelope arrived early.

Pop'Comm reader, Gary Hickerson of Ft. Smith, Arkansas, sent a note to me yesterday saying, "I have known Don since the early '60s and bought my first CB radio from him. He was a very intelligent man and will be missed in this area."

He'll be missed here as well. This issue is dedicated to Don. ■

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LETTERS TO THE EDITOR

Each month, we select representative reader letters for our "Pop'Comm P.O." column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid E-mail address. Upon request, we will withhold a sender's name if the letter is used in "Pop'Comm P.O." Address letters to: Harold Ort, N2RLL, SSB-596, Editor, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801-2909, or send E-mail via the Internet to <popularcom@aol.com>.

Calling All CBers — And NOAA!

Dear Editor:

In response to your editorial "Senator Feingold Goes to Kingston" (*Pop'Comm* March '99), I am reminded of the continuing problems with 11-meter CB that have existed since the boom of the '70s. I was first introduced to radio communications in June 1965, when I was licensed as KMD7606. All went well with few stations on the air, as I was fortunate enough to live with understanding neighbors, so when any RFI problems cropped up, they were easily dealt with. Shortly before the "CB boom," I moved into a neighborhood filled with angry, uncooperative people and had nothing but problems. The increasing QRM and neighbor problems forced me off the air and I was so soured on radio, I didn't even scan or SWL. After another move, I became interested in ham radio, became licensed, and put up a small VHF groundplane. I have had no problems since, except I am now on the receiving end of much interference to my television (even with a filter) and shortwave equipment traceable to CB. Having spent more than 30 years in radio and TV, I am not an ignoramus jumping to conclusions like those I experienced when I was a CBer.

Every time I read *Pop'Comm*, I am bombarded with much nonsense regarding 11 meters, and have come up with a logical solution to ALL problems associated with it. ABOLISH IT! Those interested in serious communications will be left to explore the possibilities of Family Radio and GMRS. Those with enough intelligence will study the code and theory sufficiently to become licensed amateur radio operators, as many ex-CBers have. Such people seem to be a definite minority though, and the majority of the buttheads that now infest the radio spectrum from 25–28 MHz and beyond (into 10 meters) will fall to the FCC's axe. Frankly, 11-meter citizens band was a mistake to begin with and I see this as the only cure for this RF pollution, since the "Band-Aids" so far applied haven't worked. Incidentally, the idea expressed in *Pop'Comm* of expanding CB into the "freeband" will only worsen the problem.

And after reading a letter submitted by Keith Wigglesworth of North Carolina, I'm reminded of a much more severe problem with NOAA than is mentioned. Poor reception is the least of his worries when warnings are not broadcast in a timely fashion or are sent using the wrong codes. "Perfect Paul," the name given to the robot voice used, is quite unintelligible and mispronounces the names of key areas when a warning is given. I have read numerous complaints about it written by broadcasters in *Radio World* magazine, published for the broadcast industry, particularly regarding engineering. They also complain bitterly about numerous faults in the Emergency Alert System, the automated version of the old Emergency Broadcast System, with which we are all familiar. This country is essentially without a means of alerting the public to disaster. I envy Mr. Wigglesworth because he won't have to listen to the confusion when these systems go into action.

73s,
Warren Eggers, KB2VXA

Dear Warren,

Remember, please, that the main idea of our March editorial was how giving municipalities, such as Kingston, New York, the green light to restrict and inspect CB antennas is just one step closer to giving them the right to levy fees for radio receivers, televisions, satellite dishes, and any other bureaucratic legal weasel laws they can get away with unless we stand up and complain — loudly!

I don't question that there are renegade CBers (sometimes amateur operators — remember, getting licensed and studying for an exam doesn't change human nature) ruining life for everyone around them, but putting a city's building inspectors on the road tracking down improperly installed CB antennas is a lot like asking Inspector Gadget to be the chief of the CIA.

I'll take any edge I can get when a storm cell is moving my way. The folks at NOAA and our emergency management agencies are to be commended for striving to keep the public informed and prepared. Regardless of the problems these systems may have, in my humble opinion, it's the basics that get people hurt or killed during emergencies — not taking initial simple warnings (even if for a wide area) seriously, and worse yet, in many cases, not having a NOAA weather radio at work or home.

"Know Code International" Speaks Out

Dear Editor:

Know Code International, an organization dedicated to the issues surrounding Morse code testing requirements, announces the launch of <http://www.knowcode.org>. Know Code International's goal is to present a reasoned and rational look at the code testing debate that rages in amateur radio. The site takes a critical look at No Code International, which champions the No Code cause.

We also present several other articles which look at issues such as hurdles (barriers to entry), our basis and purpose as a radio service, and other topics. Our articles rely on common sense and logic. For more information, contact Eric June via E-mail at <CodedOne@knowcode.org> or write Know Code International, P.O. Box 10316, Truckee, CA 96162.

73,
Eric June, KU6J

Who's To Blame?

Dear Editor:

I am writing in response to you editorial regarding the decline in membership of REACT. Perhaps this decline is due to

(Continued on page 74)

Let me show you...

Trans. View AR300™ & AR570™ Color Image Facsimile System

How much time is lost in routine communications describing an incident, situation or condition?

AOR announces the Handheld Trans. View AR300™ and the AR570™ Color Image Base Unit.

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Field personnel can now send quality images over the air, giving base and field operators a visual element of almost anything, from distance shots to "close ups" of documents, maps, evidence and more. Images can be transmitted immediately and/or downloaded from the AR300 into a computer. Up to 10 images can be stored in a compressed JPEG format.

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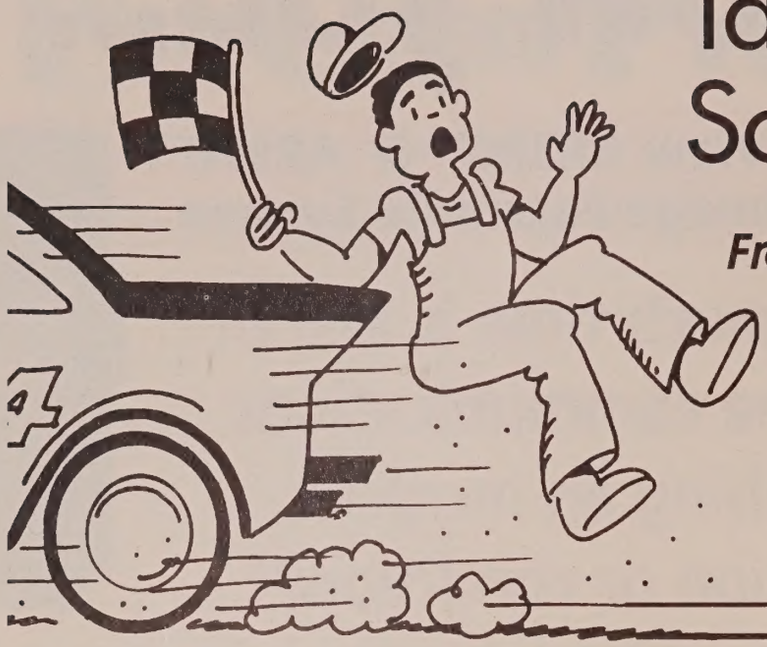

Taking Your Scanner Trackside

From Pit Crews To The Driver's Seat, Expert Tips On Hearing Race Comms . . .

By J.T.Ward

History doesn't tell us the exact time and place of the first automobile race, but you can bet that almost as soon as there were two "horseless carriages" on the same road at the same time, one driver challenged the other for the lead. After all, in those days, most roads were dirt, and the phrase "eat my dust" really had some meaning.

Over the next 80 years or so, the cars got faster, the races bigger, and the ticket prices higher. But still, things stayed pretty much the same. Drivers drove, mechanics worked on the cars, and the fans sat in the stands and watched the cars go round and round and round (and occasionally upside down or end-over-end).

That all changed in the mid-1970s, when the teams began using two-way radios to communicate between the pit crews and the drivers. For the first time, a properly equipped fan could listen in on the strategy and comments being passed back and forth. A whole new dimension of racing was now opened up for all to hear.

From CB To UHF

The crews had actually tried radio communications much earlier, using CB radios, according to Wilton King, marketing manager for Racing Radios Inc., of Atlanta, Georgia. "Not surprisingly, the CBs were less than ideal," King said. In an effort to get a better picture of the race, one driver even installed an AM radio in his car so he could listen to the broadcast from the press booth.

Today, virtually all of the NASCAR Winston Cup and Busch series teams are using professional level Motorola business band equipment in the 450- to 470-MHz range. An exception is Brett Bodine, who's using 800-MHz equipment, King said.

The Indy cars also use 800-MHz radios because it's harder to shield the radios from ignition noise in the smaller cars, and 800 MHz isn't as susceptible to ignition interference as are the 450-MHz radios, he said. The 800-MHz radios do suffer from cellular telephone interference, so a cross-band repeater in the 450-MHz range is used for extra reliability, King said.

Peter Veith has attended races in Virginia and North Carolina since the mid-1980s. "At some point early on, I started bringing my Bearcat BC-200, first to listen to NASCAR and then to the drivers. I rigged a box with a switch to select between the race broadcast (from a mini FM radio) and the scanner, or both (left-and-right). The left-and right-deal was confusing and addled the mind. I was using a cheap headset, so the noise level was high and added to the sense of chaos," Peter said. "Realizing that my ears were endangered by using an ordinary headset and turning up the volume to hear transmissions over the noise, I sought a quieter listening environment," he said.

"Not willing to pay $60 or $70 for those pilot-quality headsets, my buddy and I bought $10 shooters' hearing protectors. They are essentially very quiet headsets, without speakers. We used miniature ear buds to pipe in the scanner sound. Worked great for my buddy, but the ear buds hurt my ears and did not stay in."

"Still being ridiculously cheap, I butchered the old RadioShack headphones and installed the speakers into the shooters earmuffs, covering them with foam and using the same wiring from the headset. Voila! A 'poor man's pilot headset!' The wire ends in a stereo mini-plug (Walkman style) that allows me to use it with common (and cheap) portable radios for listening to stereo music while mowing the lawn. It also allows a left-right listening set-up at the track, if desired," Veith said.

Pete said his homemade headset is connected to two scanners when at the track. "I use an older scanner (Regency HX-1000) and set it on the radio broadcasters' headset frequency. A male-to-male homemade patch cord brings the audio from that scanner to a Y-adaptor plugged into the output of the main scanner (a Relm HS-200). The main scanner can then be used actively at the track to either scan the drivers and NASCAR or to monitor one particular frequency.

"The result is that you hear the race broadcast (with casual chatter during commercials) most of the time. When your driver talks, however, he comes in loud and clear over top of the broadcast. Set the levels right and it works great," he said.

"Where I used to get rattled trying to monitor too many frequencies, not hav-

ing enough protection against motor noise, and using separate left-and-right programs, I'm now calm, relaxed, and well-informed inside the protected world of the homemade headset."

Although he's happy with his homemade solution, Peter doesn't recommend it for everybody. "My suggestion — go ahead and buy the high-quality pilot-type headset for the quiet and try the Y-adaptor trick. Use a portable radio or spare scanner to keep a low-level monitor on the broadcasters while you scan for the drivers," he said.

Like Veith, Barry Burke Jr. says a good set of headphones are a necessity. "I wear a headset manufactured by David Clark Co. It cost about $125, but is worth every penny, as you only get one set of ears. The headset has a 27 dB noise reduction rating, and is very comfortable to wear for long periods on hot days. It is identical to the devices (minus the microphone) worn by the NASCAR officials, such as the flagman. The high noise reduction rating allows me to keep the radio volume low, making for extended battery life and sparing my hearing," Burke said.

"A good, inexpensive substitute for the Clark headset is an earphone covered with earmuff-style ear protectors. The earmuffs sold at places like Home Depot, Loews, etc., for under $20 work great. I listened with this setup for two years before splurging for the real deal. With good quality noise reduction, either in or over your ears, no additional 'volume mods' are needed. If a radio needs to be cranked up to be heard, hearing damage is very possible, as a race can last three hours or more and damage from exposure to loud noise is cumulative," he said.

Burke began scanning races using a Bearcat BC-200, graduated to a RadioShack PRO-60, and then moved up to a PRO-64. Why the radio changes?

"I frequently attend racing weekends that run multiple classes, such as Busch Grand National, Modifieds, and Winston Cup. Although the BGN & Mods actually race on Saturday, while the Cup cars race on Sunday, all three classes will practice and qualify on Friday and Saturday. This means that I need the freqs loaded for all three. Using the PRO-64 (which can be programmed by computer) allows me to go back to the camper and quickly download the frequencies I need for each class, so no (manual) reprogramming is required. In the evenings, when there is no racing action, I can load banks containing local public service and track security (frequencies), yet quickly get the radio back into race format the following day," he said.

Mac McCormick of Savannah, Georgia, got an insiders' look at racing communications when he worked in the communications center of an IndyLights race that was held in Savannah in 1997. "CART used UHF frequencies for their business and their on-track emergency workers," McCormick said.

"In addition to CART's radios, the promoter had eight-channel UHF radios and almost every part of the show had comms of some sort. There were a total of 16 channels and we in the communications center controlled all of them through two UHF mobile radios," he said.

"To know what is going on in a race, find the channel that the Chief Steward is on. Nothing happens on the racing surface during active racing without this man's approval. During a race, the surface is his and no one touches the track without calling for permission. Even emergency vehicles are told when to hit the track to respond to a crash," McCormick said.

In addition to the two UHF mobiles used as base radios, the comm center was

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equipped with six scanners and a dual-band ham rig that McCormick and another amateur used for comms between themselves over the course.

"Our two-meter portable did so much better than the UHF commercial radios that it was funny," he said. The scanners were used to monitor CARTs frequencies, the fire department, EMS and police units assigned to the race, the promoters' own 16 channels, and anything else deemed helpful during the week.

Mac offers this tip. "During the few minutes it takes to perform the National Anthem before a race, there is more going on than most folks can imagine. Just because those within view are standing at attention, the folks behind the scenes are making final preparations for the action," he said.

"While I found it was fun to listen to the race teams, I found it more informative to listen to CART and the emergency crews on the course than it was to listen to the teams and drivers. It kept me more informed about what was going on."

Frequencies

As for the frequencies used at a particular track, there are several sources used by veteran racing monitors. "My frequency information has been collected from lists purchased at the track, Websites, other fans, and publications, such as PoliceCall," Barry Burke Jr., said. "When in doubt, ask at the track, as someone will have the frequency you need," he said.

Websites that include race team frequency information include <http:// www speedworld.net>, <www.racescanners.com>, <http://www.speedworld.net/frequencies/frequencies_index.html>, and <http://www.racescan.com/>, among several others.

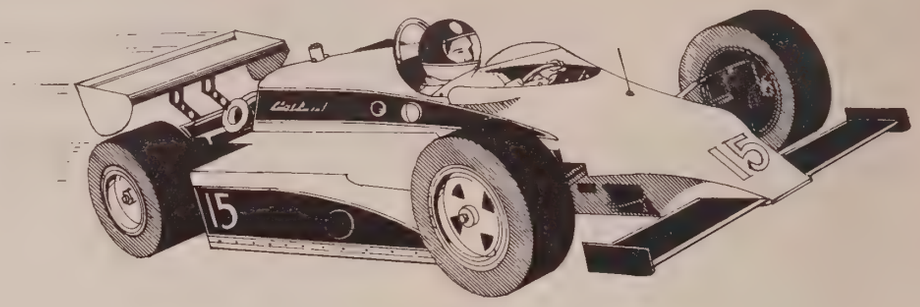
Some sites offer free frequency lists, while others charge annual membership fees. There are also race scanning newsletters which can be purchased by subscription, with updates that can be purchased at many tracks.

"I let my frequency club membership expire because the yearly dues are $30. I only attend three races a year (spring at Darlington, the Brickyard, and October in Charlotte), so it's in my best financial interest to only purchase the updates at the track," said Rob Evans.

You don't have to be at the race to use your scanner, as long as you live fairly close to the track. "I've used a base scanner to monitor a race at a track miles away, but line-of-sight, while watching on TV," Edward Griffin said.

"You don't have to be at the event to hear all of the signals, especially the pit crews which may have an antenna up on a mast, or on top of their trailer. The team's spotters are commonly on high ground, so their communications are easier to pickup from a distance than those from the cars on the track. It's not too difficult to find the freqs used by the broadcasting folks, and you may be able to listen to radio or TV announcers during the race," he said.

"Scanning or searching during race practice and qualification can be very



Tips For Race Scanning

• It helps to program the frequency for a particular car number into a channel with the same number. That way, when Ricky Rudd (car #10) has a problem, you know to switch over to channel 10 on your scanner.

• Bring a fast scanner. You will sometimes need to scan 120 or more channels until you determine which frequencies the teams are using that day.

• Program your radio before you get to the track. There are too many distractions once you get there to do it properly.

• Make small cheat sheets of which frequencies are in which bank.

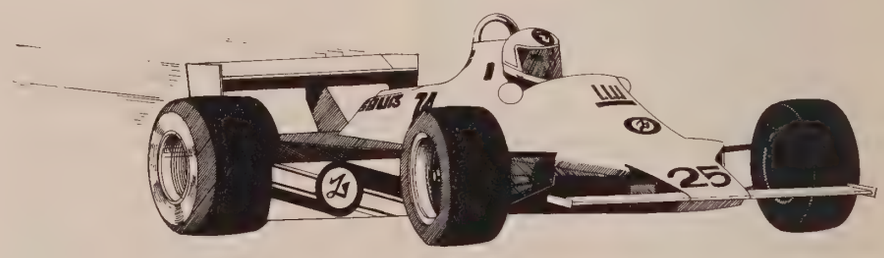
• Bring extra batteries, extra cheat sheets, and a few different antennas.

• Triple-conversion scanners work best. Dual conversion scanners will pick up so many images it will be impossible to discern whether you're hearing an image or the real frequency. Use a low-gain antenna to help prevent images.

• You can never take enough batteries with you. Sunscreen and protective clothing are good things not to forget. Some folks use noise cancelling earplugs in any ears that are not occupied with an audio earplug.

• For the most part, racing frequencies are in the 450-MHz–470-MHz business band. Teams, sanctioning bodies, and broadcasters are found in that range.

• It doesn't hurt to scan the GMRS and FRS frequencies from time to time. You'll often hear communications between the pit crew and garage area. Also, monitor the media on the remote broadcast pickup frequencies from 450–451 and 455–456 MHz range. You can hear the various pit reports and the ESPN and MRN network audio feeds.



helpful, because it's easier to identify frequency use by car when less than the whole field is on the track. Some teams do vary frequency between practice and the race, but it's still helpful. The track officials and safety folks don't change, and you can know that when the green flag drops, you've got a head start on knowing what to listen to. Some events let you into the pit and paddock area during non-racing times, and this provides a good chance to check out the cars up close, and take your frequency counter with you," Griffin said.

Mike Raley, president of the Frequency Fan Club, has been a race fan since the cars ran on the beaches at Daytona. He started monitoring the races in the 1980s, and began publishing frequency lists in 1987. Frequency Fan Club now publishes a monthly race scanning magazine, plus sells scanners, headsets, and other accessories via mail order and through its Internet site, <www.racescanners.com>.

Raley recommends the RELM line of scanners for racing since several models offer CTCSS and DCS capability. These sub-audible tones allow the receiver's squelch to remain closed except when a valid transmission is received. This eliminates having to listen to the interference from the hundreds of radios used at a race track by security forces, caterers, and other vendors, Raley said. RELM radios, which are built by Yupiteru, also have heavy internal metal shielding which helps eliminate bleed-over, he said.

A specially-built RELM radio, the RE2000 Alpha, was designed especially for race fans and includes an alpha-numeric display, CTCSS & DCS decoding, computer programming, and display lighting that comes on automatically every time the squelch opens. The radio was specially-built for Racing Electronics, Inc., and can be seen on the company's Website at <http://www.racingelectronics.com>.

Raley said he also expects a new Uniden radio aimed at race fans to be available later this year.

Encryption?

Surprisingly, the teams don't scramble or encrypt their radio communications to prevent the competitors from listening in. "Every car is different. What you adjust on your car may not do a thing on my car," Raley said.

Listening in on another team's communications can also be hazardous, he said. A little misinformation goes a long way.

A few years ago, driver Bill Elliot informed his crew via radio that he was coming into the pits for gas and new tires. All the other drivers on the lead lap followed Elliot into the pits. You can imagine their surprise when Elliot roared away into the lead after getting only gas and no tires. The other drivers were stuck in the pits, waiting for their crews to finish the tire changes.

Team owner Roger Penske tried encrypting his cars' radios a few years ago, but the fans became so irate and the move generated such negative publicity that Penske relented. Today Penske's teams encrypt their communications during practice, but on race day, they transmit in the clear.

OK, so you've got your radio loaded with frequencies, and your pockets loaded with spare batteries, sun screen, and extra cash (remember, auto races are the land of the $3 hot dog). Just what are you likely to hear through those expensive new headphones you bought?

"One of the cool things I heard was last October in Charlotte when the sewer line busted. No one else was saying what was the cause for moisture on the track except for the track officials," said Rob Evans, of Lugoff, South Carolina.

Where To Look For Racing Comms

151.625–151.955 (30 kHz step)
154.515, 154.540, 154.570, 154.600
457.5125–457.6125 (12.5 kHz step)
467.7375–467.9250 (12.5 kHz step)
460.6625–462.1875 (12.5 kHz step, with skips for all airline and alarm company frequencies)
462.7625–464.9875 (12.5 kHz step, with skips for the EMS frequencies)
465.6625–467.1875 (12.5 kHz step, with skips for all airline and alarm company frequencies)
467.7625–469.9875 (12.5 kHz step, with skips for the EMS frequencies)
851.0125–855.9875 (25 kHz step)

"Another was at Darlington last March, where Kenny Wallace was running up front and got very upset because NASCAR said that he came out of the pits behind a couple of other drivers. He began to mention some cuss words that would have made a sailor blush," Evans said.

"One thing for sure, if you have young children listening in on the scanner, know that the drivers and crews do get emotional in the heat of battle and say a few cuss words. Even the drivers that include religion as a major part of their lives have been known to cuss a time or two, such as Dale Jarret in the Brickyard last year when he ran out of gas," he said. ■

CIRCLE 63 ON READER SERVICE CARD

ZLXA — How Do You Read?

It's A Unique Station, And A Rare Catch . . .

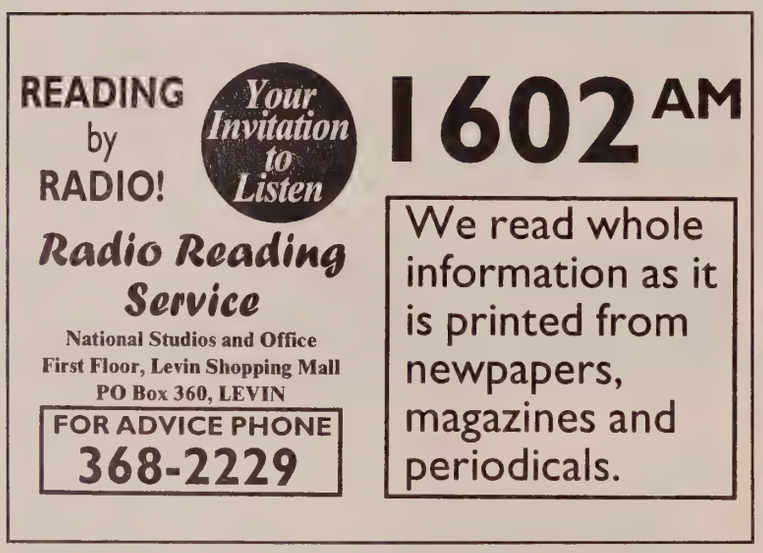
By Gerry L. Dexter

Unlike the good old days, the true-blue, hard-core shortwave broadcast hunter of today doesn't have very many juicy Pacific Ocean DX targets to go after. One of the few, which does present a serious challenge to anyone who doesn't live in the Western part of North America, is 2XA in Levin, New Zealand. But 2XA is interesting for reasons beyond its fascination as a rare DX catch.

2XA is New Zealand's "Radio for the Print Disabled," serving the estimated 99,000 adult New Zealanders who cannot see, hold, or understand printed literature. The station, also known as the Radio Reading Service, is operated entirely by volunteers. It was founded as a charitable society in 1985 by Allen Little, a member of the New Zealand Foundation for the Blind. Little is a ham operator (ZL2GB) who has a strong and active interest in the welfare of persons with disabilities.

2XA went on the air on May 9, 1987 and operates from studios on the first floor of the Levin Shopping Mall in Levin, a city of about 15,000 in the southern area of New Zealand's North Island. Levin is part of a cluster of small settlements collectively known as "Horowhenua" which, together, has a population of about 40,000.

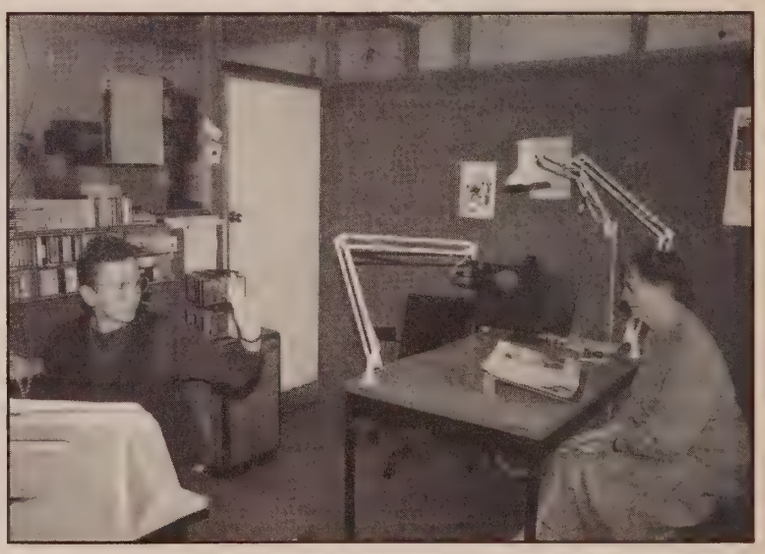
In addition to donations from listeners and other interested



From Levin, New Zealand, their card says it all.

A drive into Levin takes you past this sign at the edge of town.

The studio and reception area of 2XA/RRS, opened in November, 1998.



Volunteer Gladys Chetwin begins reading on a cue from production assistant Glenda Rowsell.

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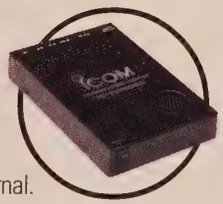

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– Passport to World Band Radio, 1998

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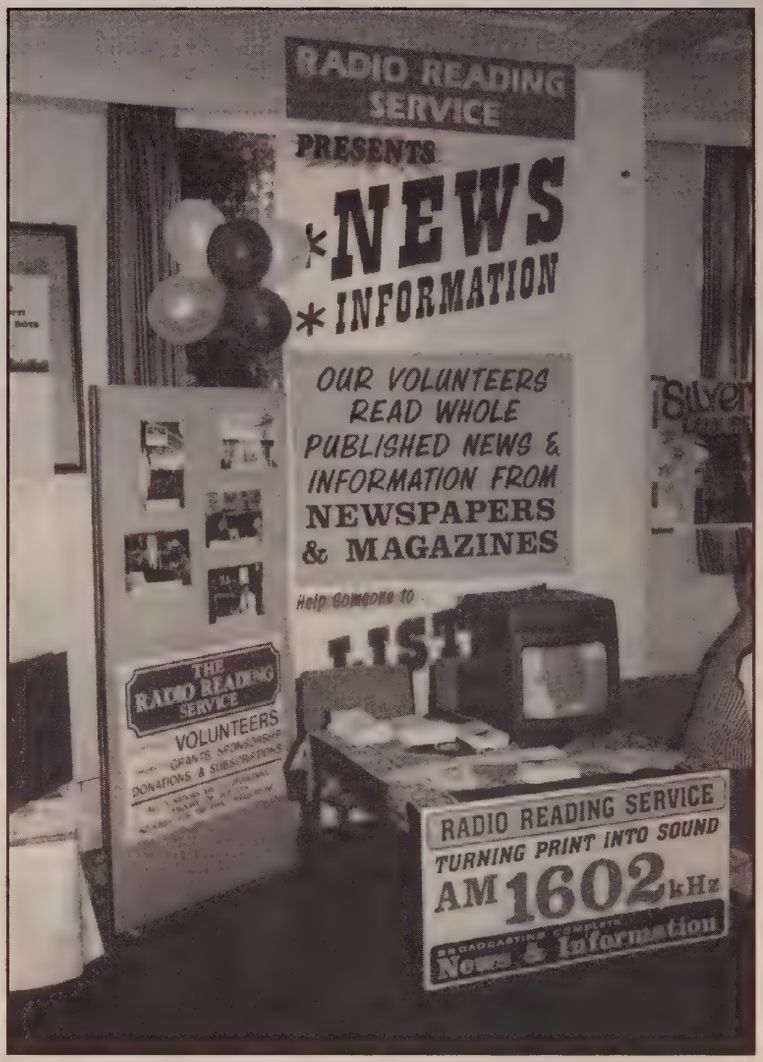
2XA hangs its shingle out in the Levin Shopping Mall.



RRS display at the "Age on the Go" Expo in Levin last fall.

persons, the station receives funding through various grants, subscriptions, bequests, and sponsorships of specific programs. The organization also gets a portion of the fee New Zealanders must pay to help fund non-commercial broadcasting. The service is a member of the National Association of Radio Reading Services in the U.S., and an associate member of the Australian Council for Radio for the Print Handicapped.

Over 240 people devote time to making the station slogan "turning print into sound" a daily reality — providing "full, fresh information, topical news, and current affairs based on published material." In addition to the on-air people, other volunteers work behind the scenes, operating equipment or working in the office. The station is on the air 24-hours-a-day, although much of the overnight schedule is a relay of Radio New Zealand's National Program.

The Radio Reading Service's (RRS) program content

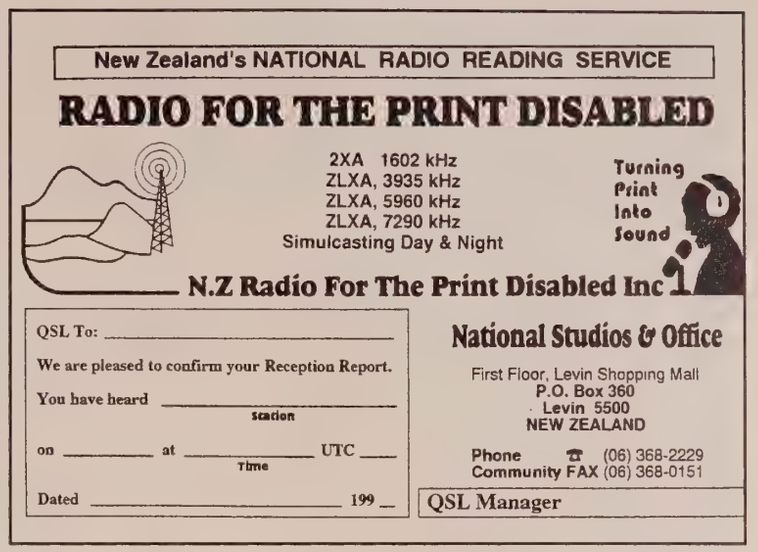
Reader/operator Adrienne Ward at work in the RRS studio.

Alan Wilks (reader) and Brian Stakoe, studio operator, on the air.

includes readings from local and national newspapers, national and international magazines, feature programs produced by the RRS, audio books (stories) and programs from Radio Netherlands, the Voice of Germany, the Radio Entertainment Network, Swiss Radio International, and a few USA-produced religious programs which date back practically to Moses: "Back to the Bible," "Unshackled," and "Bringing Christ to the Nations." The last three are a part of the Sunday schedule which also includes a live broadcast of services from St. Andrew's Church in Levin.

In addition to news and current events, other subjects the RRS covers include business, science, travel, the environment, health, sports, computers, and gardening.

2XA serves the Horowhenua and Manawatu area with one kilowatt on 1602 kHz mediumwave and at 88.5 MHz FM, and reaches well beyond its home base via its shortwave frequencies. The long range goal is to someday create a national network of Radio Reading Services. To that end, branches of New Zealand Radio for the Print Disabled are planned for the Auckland, Hamilton, Wellington, and Christchurch areas.

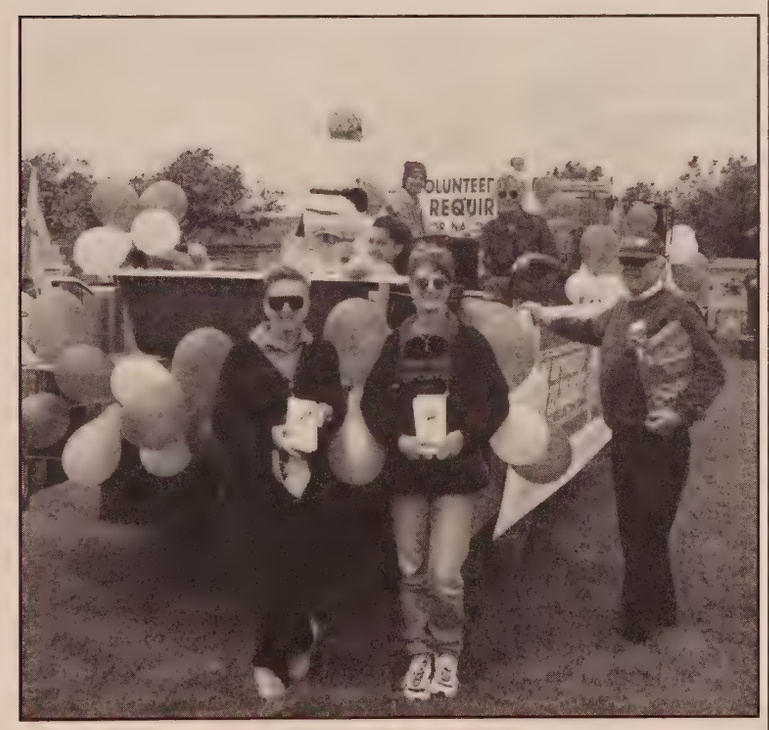


If you're lucky enough to hear and report ZLXA, here's the card you'll receive in return.

The Shortwave Call Letters — ZLXA

The shortwave call letters are ZLXA, which operates around the clock on **3935 upper sideband** with one kW, and on **7290 USB** with 500 watts from 2000 to 0700. **5960** is sometimes used as an alternate/standby frequency for 7290. The best chance for U.S. DXers — especially those outside the West Coast — to catch ZLXA is during the post-midnight hours, local time, on 3935. This frequency, of course, is in the 75-meter amateur band, so even if a signal from ZLXA is present, your success will depend on how much ham QRM is present at the time (and how alert you may be at such an awful hour!).

A correct reception report will get you a QSL card. Reports should go to New Zealand Radio for the Print Disabled, P.O. Box 360, Levin 5500, New Zealand. Needless to say, a donation would be appreciated. At least be sure to include a $1 or three International Reply Coupons to cover return postage costs. They welcome visitors, too, so if you ever find yourself in or near Levin, you're invited to stop in and say hello! ■



The RRS entry in Levin's 1998 Christmas Parade. Here's RRS Chairman Allen Little (standing) with Janet Marsh (reader) and Glenda Rowsell, Program Assistant.

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WIBW: The Drifter That Found A Home

A Seed Blew In From The Windy City, Took Root, And Blossomed In Topeka!

By Alice Brannigan

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Empire On Wheels

Carrell had built an interesting business mini-empire. He owned a fleet of portable 100–250 watt broadcasting stations that freely roamed throughout the Midwest. His stations, WBBZ, WHBL, WHBM, WIBJ, WIBM, WKBG, and WIBW, were hired out for on-site broadcasts from fairs, sports events, publicity stunts, political rallies, speeches, motion picture and store openings, and all sorts of other special events. Sometimes, radio dealers or transmitter manufacturers would contract for a station to temporarily operate from a particular community as a way of generating receiver sales or interest in establishing a permanent broadcasting station there. Some of Carrell's stations were installed in vehicles. Other licensees had similar portable broadcast stations in different areas, but not as many as Carrell.

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Early On, Early Off

Interestingly, in broadcasting's very early days, Topeka had two broadcasting stations. Station WJAQ (100 watts on 833 kHz) was owned by Capper Publications. Station WPAM (100 watts on 833 kHz) was owned by Auerbach and Guettel. Both stations opened towards the end of 1922, and both were dark by early 1925.

But, by 1927, local citizens liked what they were hearing over WIBW, and the station decided to stay a while, under the sponsorship of a Topeka insurance firm. On September 6, 1927, WIBW relocated to the tenth floor of the National Reserve Life (Insurance) Bldg., Tenth and Kansas Streets. An inverted-L type antenna was placed on the roof. The station's new motto promoted Topeka and became, *Where Investment Brings Wealth*. This worked out so well that by January of 1928, Carrell's station was licensed permanently for Topeka. The power was upped to 250 watts and the slogan changed to, *Topeka's Own Broadcasting Station*. The decision to locate the station permanently in Topeka possibly came as a reaction to increasing FRC annoyance with roving portables. Regular stations, seeking to protect their audiences from being lured away, had begun registering "interference" complaints with the FRC whenever portables dared to show up in or near their coverage areas. By August of 1928, the government canceled the regulations that allowed portable broadcast stations to exist. By then, Carrell's offices had moved to New York City. His WIBM had set up permanent shop in Jackson, Michigan, his WBBZ became a resident of Ponca, Oklahoma, and WHBL was sold to new owners in Sheboygan, Wisconsin. Former portable licenses for WHBM, WIBJ, and WKBG were canceled.

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CIRCLE 75 ON READER SERVICE CARD

WIBW: The Drifter That Found A Home

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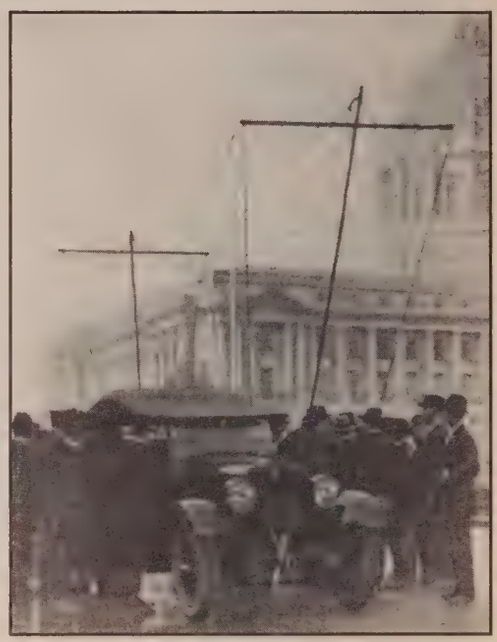

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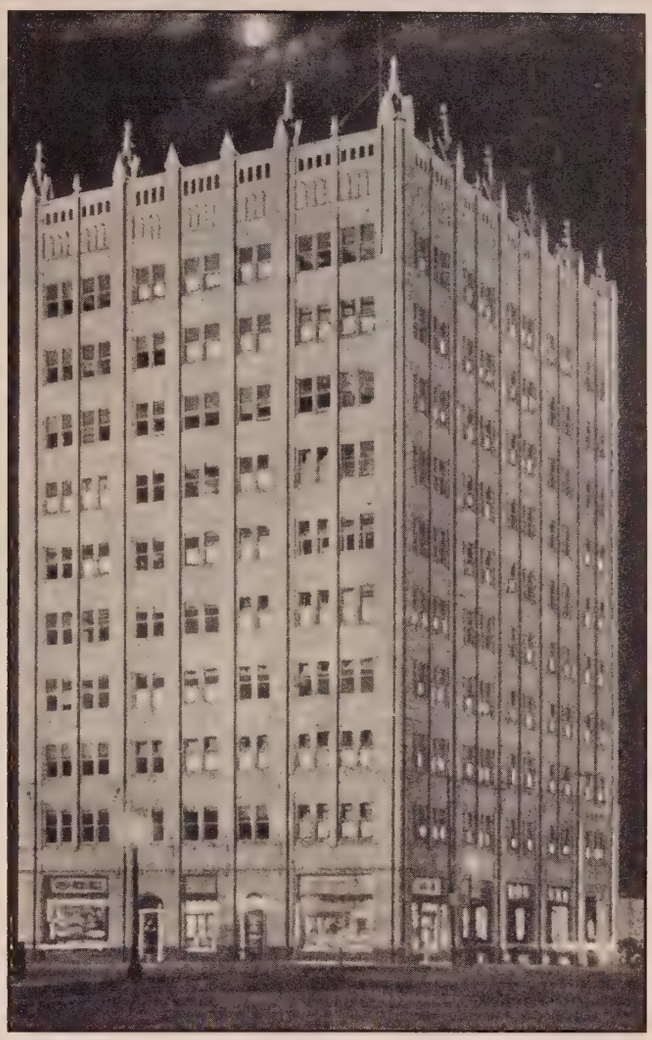

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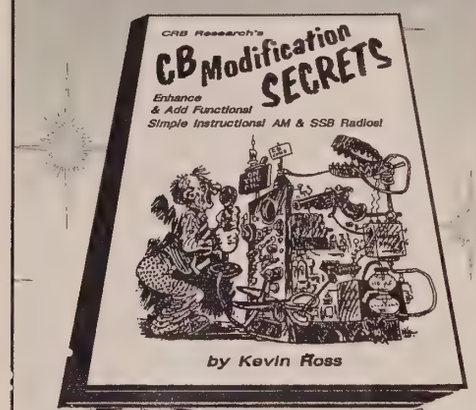

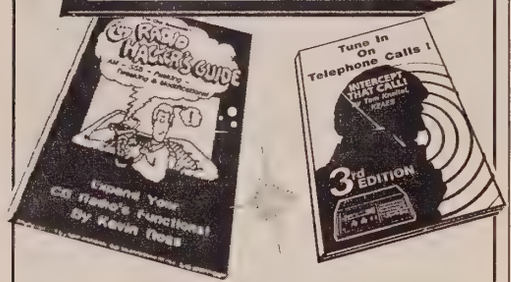

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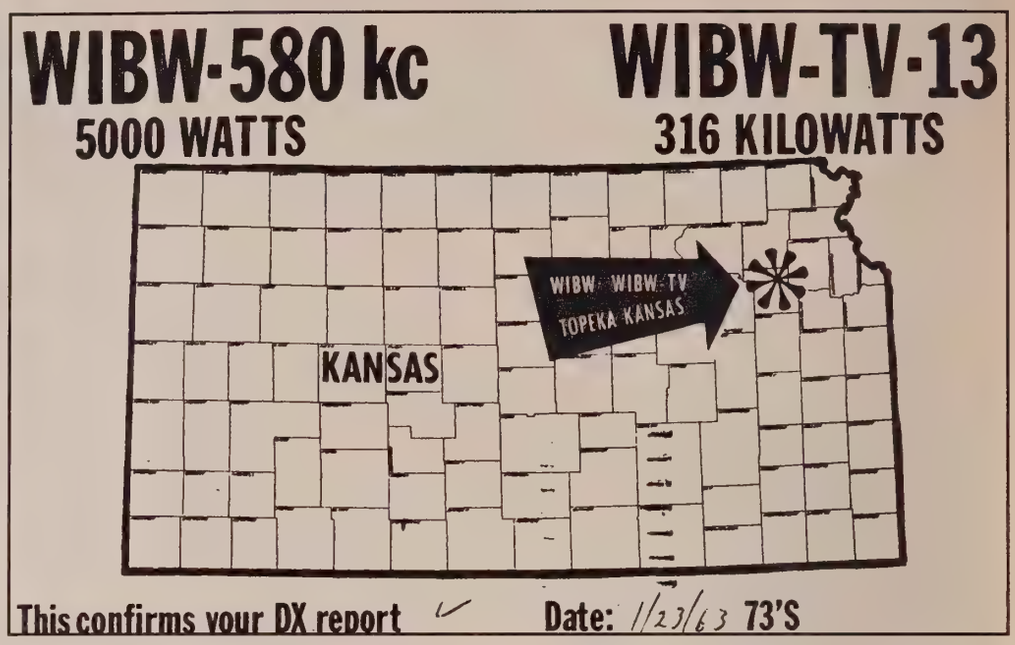

This 1963 QSL from WIBW was used for their AM and TV stations. (Courtesy R. Fletcher, N.Y.)

create a directional nighttime signal pattern (to protect stations towards the east).

Though former Sen. Art Capper passed away in December, 1951, Capper Publications continued as owner of WIBW's licensee corporation. As of February, 1957, Capper Publications and WIBW were sold for $2.5 million to Stauffer Publications, Inc., owners of eleven newspapers in the Midwest. Stauffer moved WIBW's studios to 5600 West Sixth Street in early 1959. This is a two-story brick building on Menninger Clinic grounds. In October of 1961, a new time-share agreement for 580 kHz went into effect with KSAC, with KSAC operating about 20–24 hours per week, from half past noon to just after 5 p.m., plus football on Saturdays. WIBW operated at all other times, providing farm news and features during the morning hours.

By 1970, the station was running a Talk/Information/Good Music format, though as of mid-1971, this had been changed to all news, except for its regular farm information and some "good music" programs. During 1983, the format was changed to News/Talk/Country Music, but a year later, WIBW had evolved into a country music station geared to a young adult audience.

In early 1995, Stauffer Publications sold WIBW (along with its sister FM station and properties in Amarillo, Texas) to

DIDS
QSL
Defense Civil Preparedness Agency
Radio Station / WGU 20 / 179 Kilohertz
1st 50 KW / All Solid State AM Transmitter
Chase, Maryland

An early veri from WGU20. I don't want to unduly alarm anyone, what with Y2K looming, but WGU20 was in Chevy Chase. Our federal Civil Defense agency got that wrong on its own QSL!

Morris Communications Corporation for $275 million.

Today, WIBW is Kansas' fifth oldest continuously-licensed AM broadcaster. It operates on 580 kHz with 5 kW (nighttime directional) from 5600 West Sixth Street, Topeka. It runs a country music and farm program format. WIBW is silent each weekday from 3:30–6:30 p.m., when 580 kHz is occupied by Kansas State University station KKSU (ex-KSAC) in Manhattan, Kansas.

Thanks to Broadcast Pro-File, 28243 Royal Road, Castaic, CA 91384-3028, for granting us permission to extract information from their lengthy report on WIBW. B-PF is a professional research service that, for a nominal fee, can furnish highly-detailed historic reports on any U.S. AM or FM broadcast station, past or present. A catalog of their services is available from them for $1.

Authentic?

American Movie Classics (a cable TV channel) has presented an original sitcom called *Remember WENN* during the past few seasons. It's something akin to the original *WKRP in Cincinnati*, except that the show is set at a station in Pittsburgh during the 1930s. Though it's primary purpose is to entertain, secondarily, the program prides itself on accurately portraying a small 1930s radio station's facilities. Except for the occasional coiled telephone cord (a 1950s development) noted on a prop telephone, the set does give off pretty good 1935 vibes.

Reader Dean Kazmierczak, who is a fan of the show, is curious to know if there ever was an actual 1930s station with the call letters WENN.

Not during the so-called "golden age" of radio. The call letters WENN were first issued to an AM broadcaster in the 1950s (it's now station WAGG, Birmingham, Alabama).

Tower Of Power

David Nagel, of Quincy, Illinois, sent an E-mail wondering if we could recall for him any specifics about a federally-operated low-frequency time signal station. He heard it between 1984–86, believes it was on 138 kHz, was located in a northeastern state, and had a high-power germanium transistor transmitter.

The station Dave obviously means is WGU20 on 179 kHz. This was a 50-kW station put on the air at some point in the 1970s by the Defense Civil Preparedness Agency. When FEMA was created in 1979, it replaced the DCPA and took over operation of WGU20. The station had no set schedule, but operated on and off over the years (at least until the mid-1980s) with voice and RTTY broadcasts of (Eastern Standard Time) time signals and weather announcements. WGU20 used the first all solid-state 50 kW transmitter. It was located in Chevy Chase, Maryland, and its powerful signals were reported by listeners throughout the hemisphere.

This column is always seeking material relating to old time radio and wireless stations, including photos, picture postcards, QSLs (copies OK), newspaper clippings, station directories, anecdotes, memories, and column ideas. Our address is Alice Brannigan, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801. Our direct E-mail address is <Radioville@juno.com>. We'll be back after a brief vacation. Enjoy the summer!■

World's Most Powerful CB and Amateur Mobile Antenna*

Lockheed Corp. Test Shows *Wilson 1000* CB Antenna Has 58% More Gain Than The K40 Antenna (on channel 40).

In tests conducted by Lockheed Corporation, one of the world's largest Aerospace Companies, at their Rye Canyon Laboratory and Antenna Test Range, the Wilson 1000 was found to have 58% more power gain than the K40 Electronics Company, K40 CB Antenna. This means that the Wilson 1000 gives you 58% more gain on both transmit and receive. Now you can instantly increase your operating range by using a Wilson 1000.

***Lockheed** - California Company*
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Burbank, California 91520

Wilson Antenna Company Inc.
3 Sunset Way Unit A-10
Green Valley Commerce Center
Henderson, Nevada 89015

Subject: Comparative Gain Testing of Citizen's Band Antennas
Ref: Rye Canyon Antenna Lab File #870529

We have completed relative gain measurements of your model 1000 antenna using the K-40 antenna as the reference. The test was conducted with the antennas mounted on a 16' ground plane with a separation of greater than 300' between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

FREQUENCY (MHZ)	RELATIVE GAIN (dB)	RELATIVE POWER GAIN (%)
26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
27.405	2.00	58

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The Radio Connection

A LOOK BEHIND THE DIALS

BY PETER J. BERTINI
<RadioConnection@juno.com>

A Boy's First Receiver

Time to get busy building the Boy's First Receiver! By now, you know what parts are needed, and hopefully have some idea of what tube is going into your version of the project. This is it — we are going to finish up the small details and get the soldering iron warm. This project has taken longer than I had imagined, but I don't want to leave out any details that would cause a potential new builder to end up with a project that doesn't work. These little sets want to work, but something as simple as having too small of an antenna coupling capacitance value, or too large of a regen control resistor value can yield a set that seems very insensitive!

Table 1 shows what tubes may be used, and gives data on the various filament voltages and dropping resistor options. Note that the 1G4 tube, with its 1.4-volt filament, is ideal for operation from a single "D" cell. The 1H4 and 30 tubes will also work using a single "D" cell, but operation and battery life will be better when using two "D" cells in series, with a 22-ohm resistor, to drop the 3-volts down to the 2.0-volt filament rating.

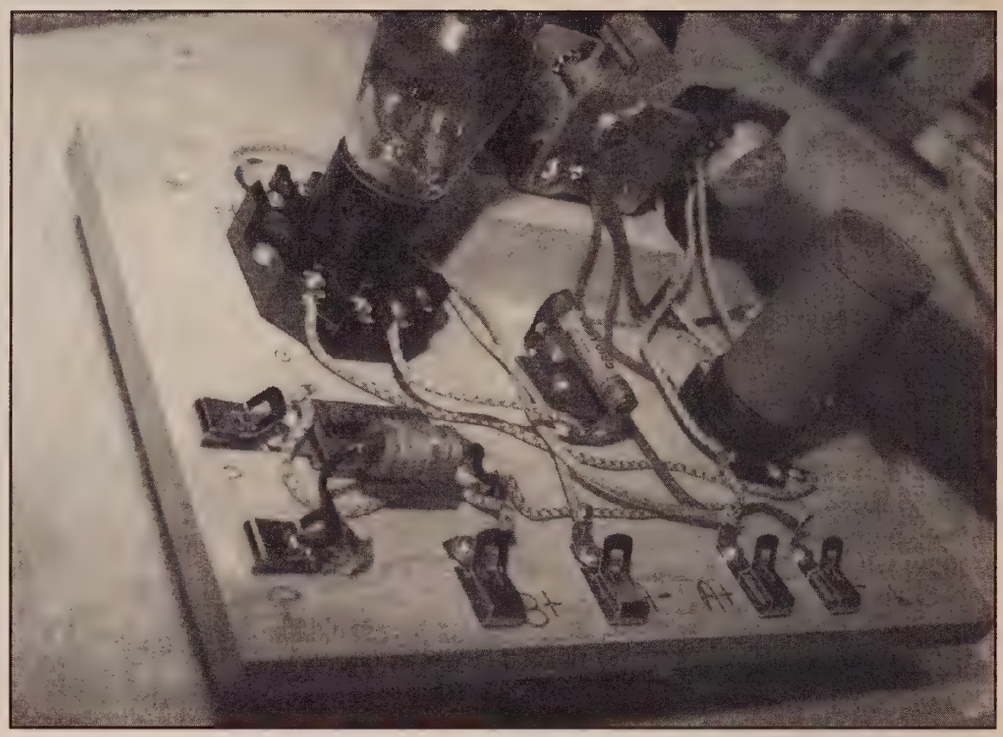

Photo 1. The completed receiver.

Winding The Coils

I've made four coils covering the broadcast band and several shortwave bands, using phenolic 4-pin coil forms from Ocean State Electronics. **Table 2** gives the winding information and the approximate frequency coverage for the coils. I used 1-1/4 inch diameter forms. You might have a slightly different diameter coil form on hand. Not to worry — my vintage copy of *Everybody's Radio Manual* states that as long as the diameter of the new coil is within 25 or 30 percent of the original, the number of turns is changed inversely in proportion to the change in diameter. In simple English: If the new form is 10% larger, the number of windings is reduced by 10%; if the winding is 10% smaller, it will require a 10% increase in number of windings.

Yes, you may go a few wire diameters larger or smaller without problem. The wire gauge used on the BCB coil almost entirely fills the length of the form, so don't try using a larger diameter wire here, or the windings won't fit. Also, the distance between the Grid Coil and Tickler Coil windings is critical! If you miss or add a few turns on the BCB coil, it won't matter much. The SW coils are more critical.

Data for shortwave coil #3 is present-

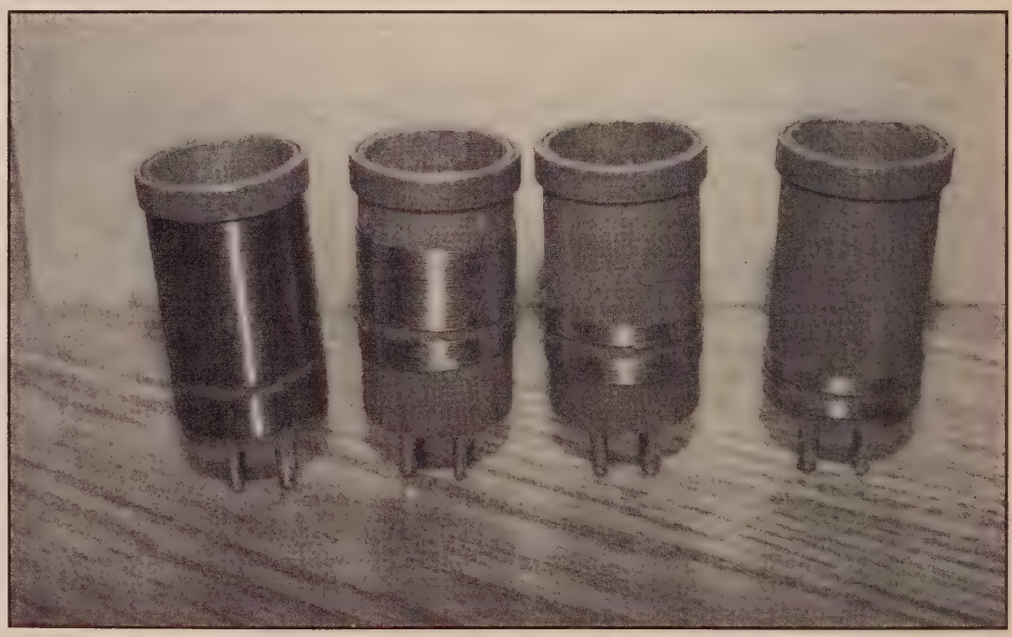

Photo 2. The broadcast band and three companion shortwave coils are wound on Ocean State coil forms.

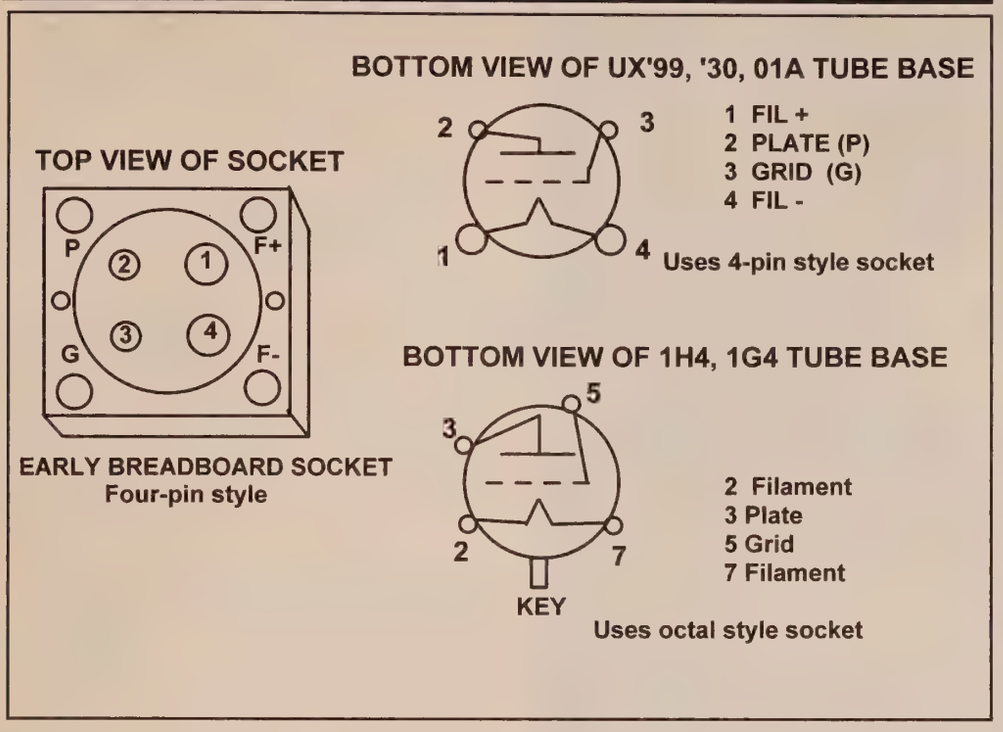

Figure 1. Base diagrams for tubes and tube sockets.

ed as information only. Whether a particular set will work much above 10-MHz is largely dependent on the tube gain, and the physical layout of the set.

The coils were wound using enamel-coated magnet wire from RadioShack; their 278–1345 assortment contains the needed 26 (green spool) and 22 (tan spool) AWG wire sizes. Please, be very careful when winding the coils. The windings should be neat and tightly wound, with each adjacent winding firmly laying against the next — no gaps and no windings crossing over each other. To wind the coil, insert the index finger of one hand into the form, using the thumb to guide and hold the wire while rotating the form with the other hand. The first few windings are the trickiest, and must be done right, as they form the foundation for the rest of the windings. Once a winding is completed, a very small dab of "Super Glue," smeared over the winding, will keep it in place. Use a small pin vise to drill the wire holes in the form. Note that the windings must be wound in the same direction, and must be connected exactly as shown in the diagrams and pictorials. This is very important, or the set will not work. Refer to **Figure 2.** Here's a hint to help you solder the coil leads. Once a winding is finished, determine how much is needed to reach the bottom of the base pin, and trim to length. Remove about one-half inch of insulation from the end of the wire, and tin the bare wire using a hot iron and solder. Now, you may feed the wire through the coil form

Tube type	Filament volts	Filament current	A battery requirements
UX199	3.3	.063 mA	2 D Cells in series
1H4	2.0	.040 mA	Singe D cell, or two D cells with a 22-ohm 1/2-watt resistor in series
30	2.0	.040 mA	Single D cell, or two D cells with a 22-ohm 1/2-watt resistor in series.
1G4	1.4	.050 mA	Single D cell (best tube for set!)
01A	5	250 mA	6-volt lead acid battery (sealed gelcel for safety) with suitable rheostat

Table 1. Here are the filament requirements for various triodes.

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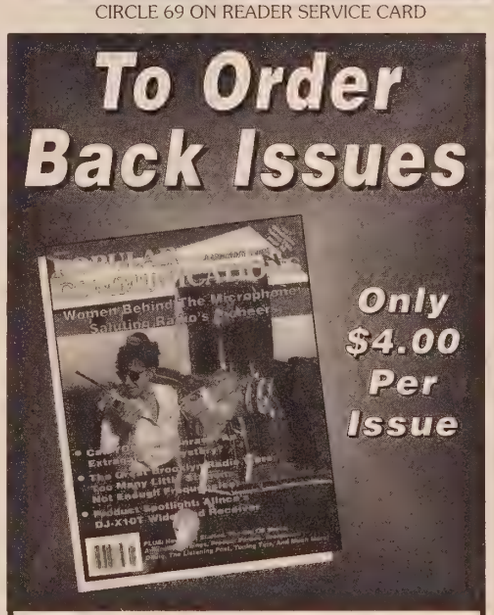

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Photo 3. Receiver under construction. Workbench activity reaches a fever pitch to meet the column deadline!

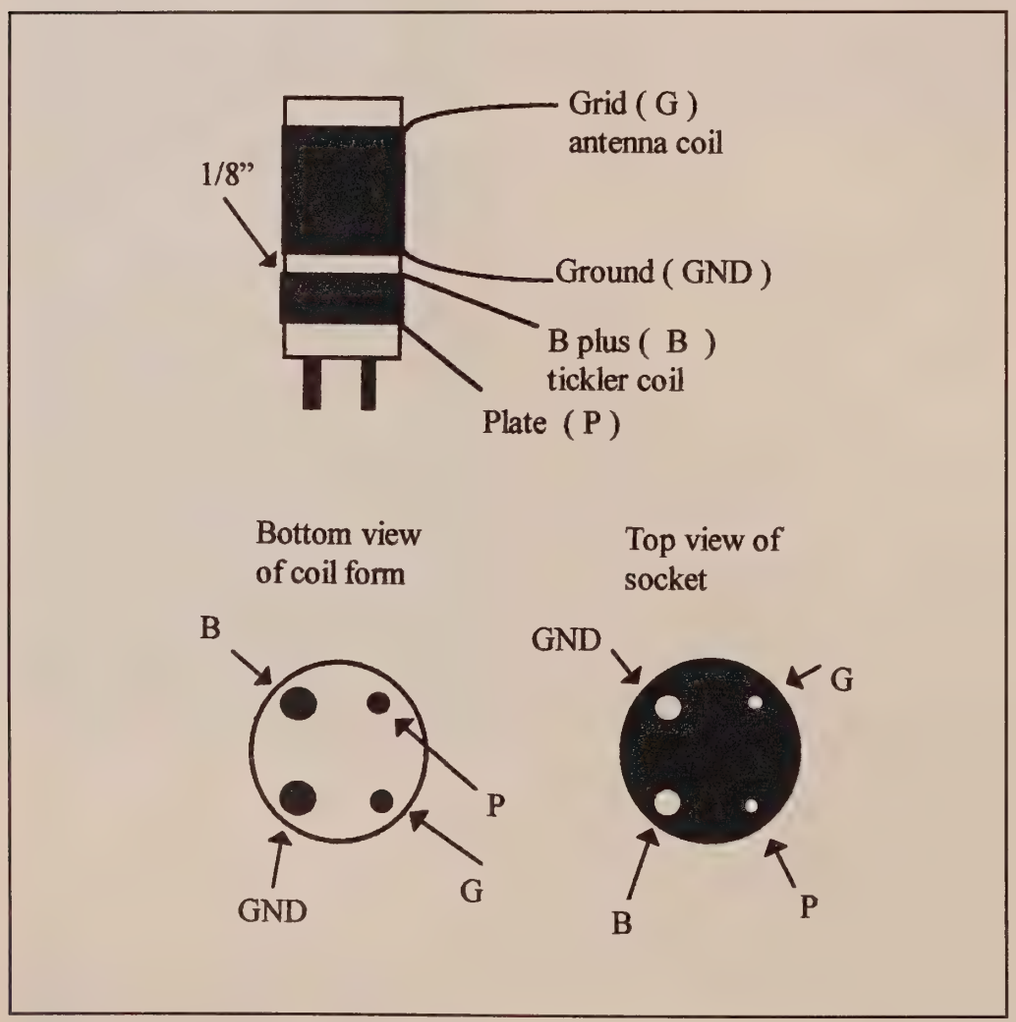

Figure 2. Proper wiring of coil form and coil socket. Refer to Table 1 for spacing between windings, and for spacing between tickler coil and form base.

and into the proper pin for final soldering. My coil pins were plated, and it took a bit of heat to get the solder to adhere and flow properly.

The Schematic And Final Parts Values

The final version of the schematic is presented here, refer to **Figure 3**. Note that I've made several parts value changes. First, the regeneration control is now 5000 ohms, not 50,000 ohms as used in the original design. This made a vast improvement in my ability to precisely set the regeneration to the point of best sensitivity. I have also changed the antenna coupling capacitor to a larger value. I found I needed at least 60-pF when using a short 20-foot wire on the broadcast band, otherwise the set appeared to be very insensitive. This must be a variable control, either a compression mica or small tuning cap will do. If you use too much coupling on the SW bands, it may load the receiver enough to prevent regeneration — always use the minimum capacitance setting that gives the best results. Ten or 15 pF is often enough on the higher SW bands. The last change involves the 250-pF bypass capacitor used near the 2.5-mH RFC — it has been replaced with a 1000-pF (.001 mF) fixed mica. Again, this seemed to improve regen control action with the SW coils.

Battery Supply

I was surprised to find I could hear broadcast stations by using a single 9-volt battery for the B supply! Things improved a bit at 18 volts — that's two 9-volt batteries in series and the set worked best with a maximum 27 volts "B" supply (3 nine-volt transistor batteries in series). Using 45 volts, as suggested by Morgan, offered little, if any improvement, over a 27-volt B battery supply. I note most early receivers used 22-volts on the detector as well.

Table 1 gives the recommended "A" battery voltages. If you use two cells in series with a dropping resistor or rheostat, the resistance must be in the "A- leg" of the A battery supply. Remember, these are directly heated tubes, and the average of the battery voltage effectively provides a negative biasing voltage to the grid, just as a cathode resistor would do in a Class-A audio stage. Use the cheapest available zinc-carbon 9-volt batteries for the B supply — they will last a long time! A good

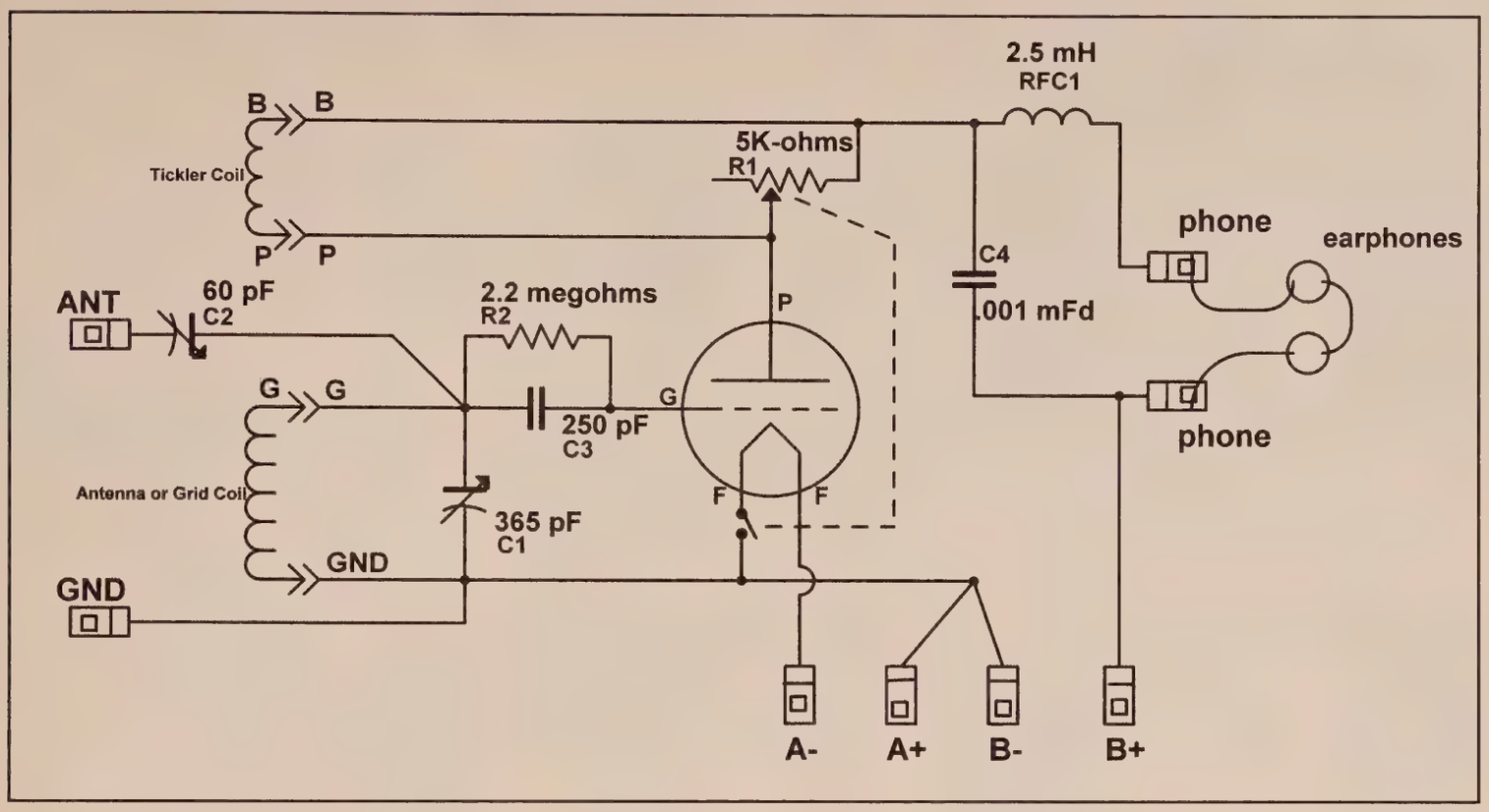

Figure 3. Receiver schematic diagram.

quality alkaline — at least "D" size — is advised for the A supply, however!

Building The Receiver

Let's go! A suggested parts layout is shown in Table 3. You may use this for a rough parts placement guide when assembling your receiver. A six-by-eight inch piece of pine (or hardwood) will do fine for the "chassis." A piece of Masonite, Lexan, or 1/6" plywood can be used for a front-panel, if you desire to dress up the set a bit. Parts are mounted using round-head brass wood screws. Double-check your wiring for errors as you go along. Use the schematic and pictorial as guides. Note that the metal frame of the tuning capacitor is tied to ground (rotor plates), while the fixed, or stator plates, are "hot." The regen control is wired for minimum resistance in the fully counter-clockwise position — refer to the pictorial for guidance.

Fire It Up!

The broadcast band is the best place to learn how to operate the receiver, and gain familiarity and confidence in setting up its controls. In general, the lower short-wave bands (2 to 10 MHz) are best after dusk and during the early evening hours.

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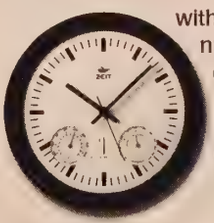

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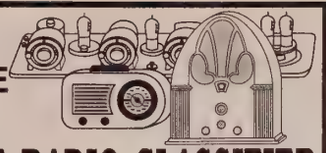

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Begin by setting the radio's regen control fully counter-clockwise to the off position. Adjust the antenna coupling capacitor for minimum capacitance. Connect a 22- to 30-volt B battery and 1-1/2 volt A battery to the appropriate terminals, and a set of 2000 ohm headphones to the "phone" terminals. Use a good outdoor antenna — at least 20 feet long — and a good ground connection!

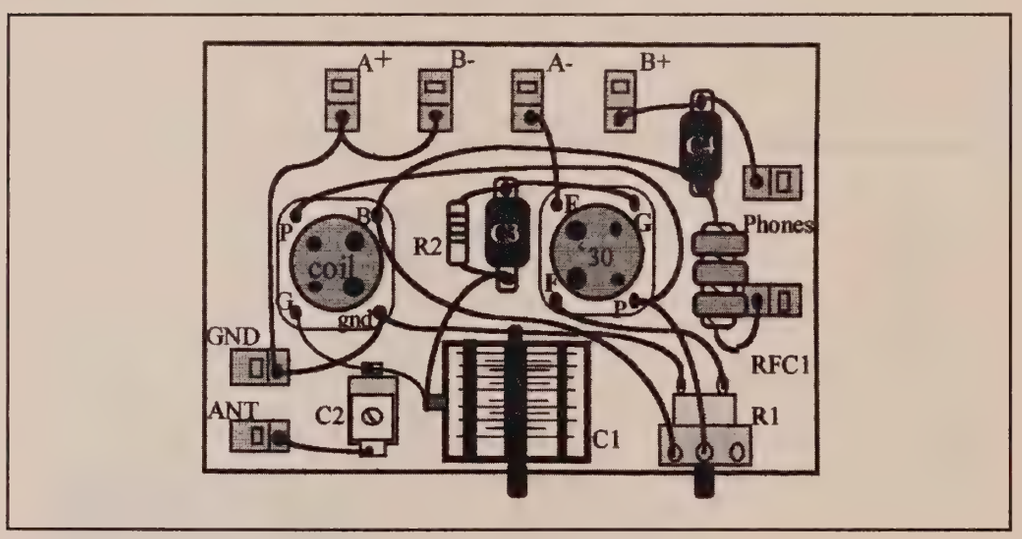
Carefully advance the regeneration control clockwise until the power switch is engaged. Continue turning the control clockwise until a "click" is heard in the headphones. This "click" indicates that the receiver has gone into full oscillation and results from a sharp change in plate current. The desired regeneration point is just before the click is heard. Set the regen control to a point just before the set breaks into oscillation, and carefully tune for a strong station. The tuning and regen controls interact; you will need to fiddle with both for best results. Learning to juggle the controls for optimum performance takes some practice, and is part of the fun of using a vintage receiver such as this one! Once a station is found, the antenna coupling capacitor, tuning, and regen controls all should be set to produce the loudest signal; overcoupling the antenna may result in loss of regeneration on some bands, or portions of the bands.

You might note your receiver makes strange ringing noises whenever the set is moved or adjusted. This is normal and is caused by the tube elements whenever there is a source of vibration at hand.

Coming Next Month

I am planning on adding an optional one-tube audio amplifier to the regenerative receiver, and hopefully that will conclude our first "Radio Connection" vintage electronics project in next month's column.

Remember our contest! Five complimentary subscriptions will be awarded; send in your receiver photos and some information on your building experiences, or the great DX heard on your "one-lung" regen! Prize winners, in part, will be judged on the basis of construction practices and the age of the builder — youngsters get extra points. ■



Pictorial diagram 1. One possible physical layout is shown here. The set shown in the photos uses a slightly different physical layout, but is electrically similar.

Wire data use RadioShack assortment	AM BCB, 540 to 1700 kHz	Shortwave band #1 1.6 to 5.0 MHz	Shortwave band #2 4.5 to 12 MHz	Shortwave band #3 8 to 16 MHz
Grid coil AWG	70 turns #26 AWG	24 turns #22 AWG	6-3/4 turns #22 AWG	4-3/4 turns #22
Tickler coil AWG	20 turns #26 AWG	7 turns #22 AWG	7-3/4 turns #22 AWG	5-3/4 turns #22
coil spacing to coil base	1/8"	3/4"	1/2"	1/8"
coil spacing between windings	1/8"	1/8"	1/8"	1/8"

Table 2. Four coils cover the spectrum from about 540 kHz to 16 MHz! Note that the exact frequency ranges are approximate. They will vary according to construction practices, set layout, and the amount of antenna coupling capacitance.

R1— 5K-ohm variable with off/on switch

R2 — 2.2 megohm 1/2-watt resistor

RFC1 — 2500-uH RF choke

C1 — 365-pF variable

C2 — 60-pF trimmer

C3 —250-pF mica capacitor

C4 —.0001 mFd mica capacitor

Coil Set, 4-pin

8 Fahnestock clips or binding posts

1H4, 1G4, or '30 vacuum tube with socket

4-pin socket for coils

Vernier dial for tuning capacitor

Wood board and panel

Table 3. Parts list for the receiver

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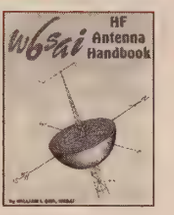

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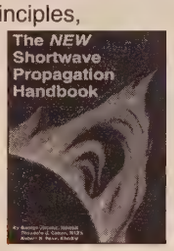

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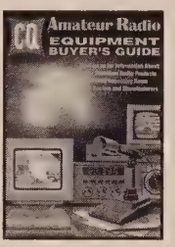

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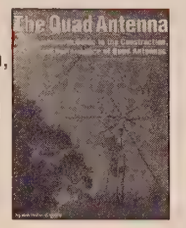

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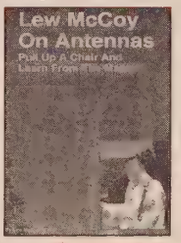

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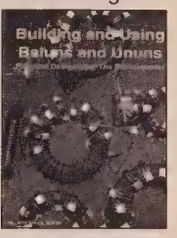

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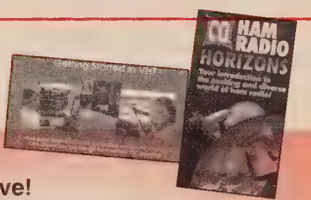

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Radio Resources

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Filtering Facts About VHF/UHF Intermod

Last month, we worked on silencing all of those phantom signal generators in inexpensive home electronics. You managed to shield the FAX machine, you went inside and manipulated some components on the telephone answering device to change where that birdie landed, and that $9.95 rodent repeller finally got unplugged and tossed in the trash. Now, you have some nice, clean reception — until a powerful paging transmitter, mixed in with 24-hour weather broadcast audio, completely wipes out your 154.830-MHz police department receive frequency. Every time the pager comes on, your receiver stops scanning and emits a racket that even the most seasoned scanner operator can't stand!

Welcome to intermodulation. "Intermod" is a result of a powerful nearby frequency signal mixing with another strong continuous signal on a VHF or UHF band, and creating sums and differences of the two frequencies that end up right on the *desired* frequency you are wishing to tune in.

"But once you add that bandpass filter, forget about receiving anything else on the other bands."

Inside your little handheld or mobile/fixed scanner are integrated circuits containing amplifiers and mixers to give you the incredible reception range of 30 MHz all the way up to 2000 MHz. The broad-banded circuitry must be open to signals on any frequency, yet selective enough that we can turn a dial or push a button and have the receiver peak up on only the desired frequency.

But in the modern DC-to-light wideband receiver/scanner, manufacturers are committed to coming up with relatively small equipment that must perform in an extremely harsh RF environment, picking intermediate frequencies (IF) that won't naturally create intermod with the mixing of known always-on-the-air signals like broadcast, 24-hour weather stations, WWV shortwave time signals, and other continuously-operating transmitters.

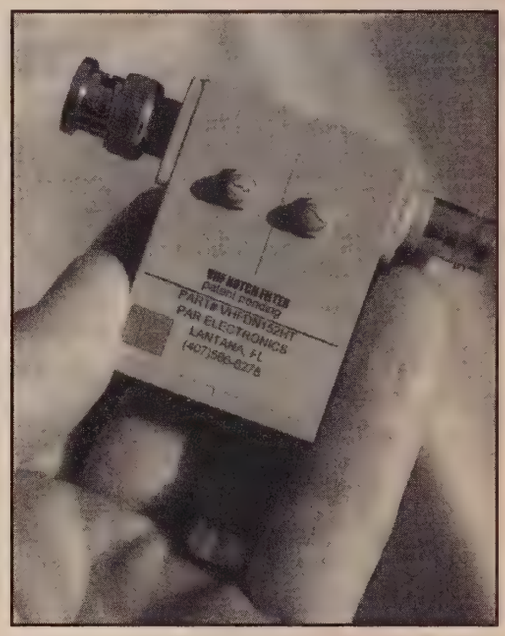
"All of our AOR wide-range receivers are tested ahead of time in strong RF environments in the United States to insure we have selected the right intermediate frequencies for our sensitive receivers," comments Taka Nakiyama of AOR in Torrance, California. "We have field-tested our new AR-16 wide-range receiver, and the new digital signal processing AR-7000 receiver, and we are satisfied that this equipment can hook up to big home and mobile antenna systems, and work well in strong RF environments," adds Taka. A tour of the AOR USA facility revealed big antennas on the roof, specifically for testing the age-old problem of intermodulation.

Q. What transmitter system causes the biggest intermod headache?

A. Local police department
B. Local pager
C. Local fire department
D. Local cellular provider

A. It is the nearby paging transmitter that creates the greatest amount of intermodulation interference, almost always on VHF. Pager transmitters are assigned frequencies between 152 and 153 MHz, and 157 and 158 MHz, with FCC-allowable effective radiated power output (ERP) up to 1,000 watts. When two or three of the paging transmitters are on the air at the same time, on nearby frequencies, sums and differences of these frequencies may mix with your local weather channel, or other paging frequencies. The signal passes directly through to the audio output stage on the desired channel you are wishing to monitor.

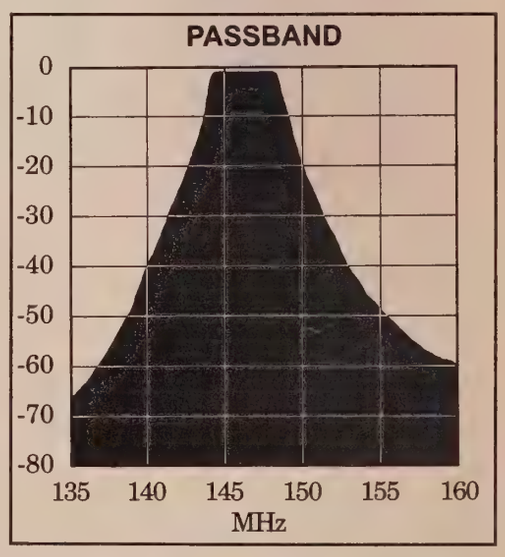
One way to mask the offending signal is to operate equipment with CTCSS tone squelch decode. It's unlikely that any of these mixed signals would have the exact tone frequency of your local police or fire department. But when the desired signal comes through, chances are it could be knocked off the air by the powerful VHF high-band pagers.



The PAR notch filter works well quieting pager squawks and squeals.

And the same thing can happen on UHF, too. Mixes of several different UHF pagers will sometimes result in an undesired signal landing on your favorite frequency.

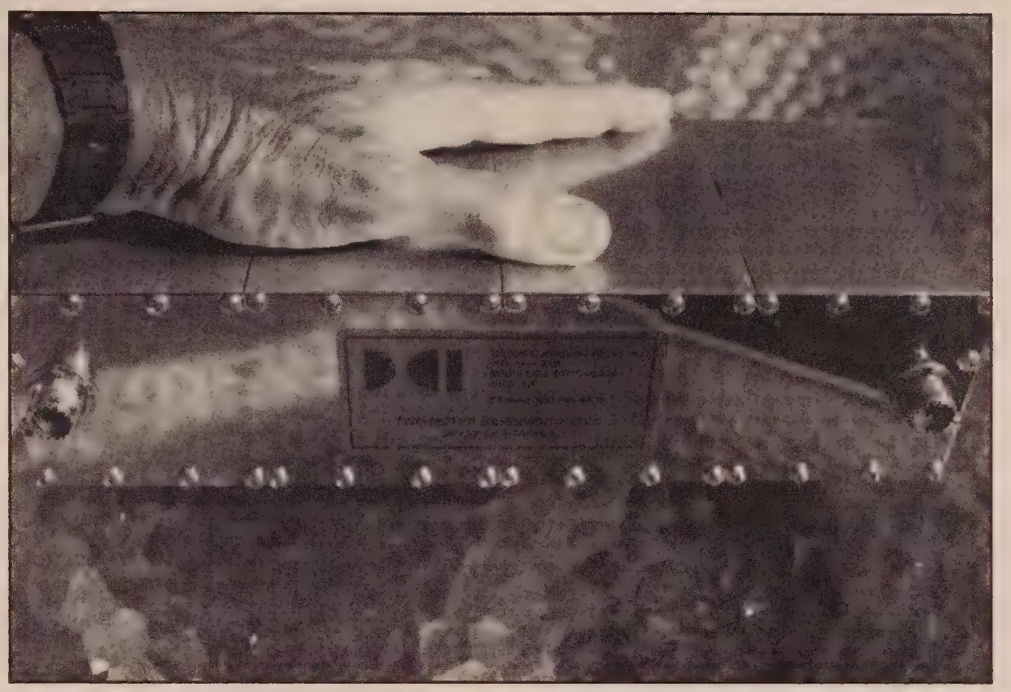
Luckily, there *are* filters that can help minimize intermodulation interference caused by powerful paging frequencies. But the first thing you must do is to determine what frequencies are mixing together to cause the problem, and which



Characteristics of a passband filter limit scanning on the entire VHF band.

ones can you effectively filter out to reduce the signal strength of the undesired mix within your scanner/receiver.

One filter technique for single-band (i.e., VHF) paging problems is the bandpass filter, such as the Sinclair Labs SBP 155 MHz series tuned for 155 MHz public safety use, or their SBP 144 MHz series tuned for civil air patrol, Coast Guard Auxiliary, and 2-meter amateur radio. These bandpass filters will roll off (attenuate) frequencies 3 MHz above and below the desired band pass. The Digital Communications, Inc., 155 MHz series bandpass filters may offer up to 40 dB attenuation on each side of its 2-MHz wide band-pass peak. Insertion attenuation is less than one-half dB, so adding this DCI four-cavity filter in series with your incoming antenna lead won't cut down on your on-frequency desired reception. Contact DCI, White City, Canada, phone 306-781-4451 and SINC Labs, Tonawanda, New York, phone 716-874-3682.



The DCI 4 MHz wide bandpass filter.

Inside these shoebox-sized bandpass filters are tuned cavity networks — usually four individual compartments — pretuned by the factory for your specific operating frequency, your desired band spread, and the deepest drop-off possible to attenuate paging interference coming in from transmitters beyond the band edge.

"Our 156.8 MHz reception was getting pounded by paging transmitters and business radio calls on frequencies just a few megahertz away," comments a SEA Tow, Inc., a marine emergency boat dispatcher located near Los Angeles' "intermod alley." "The DCI filter was tuned specifically to the marine VHF band, and when

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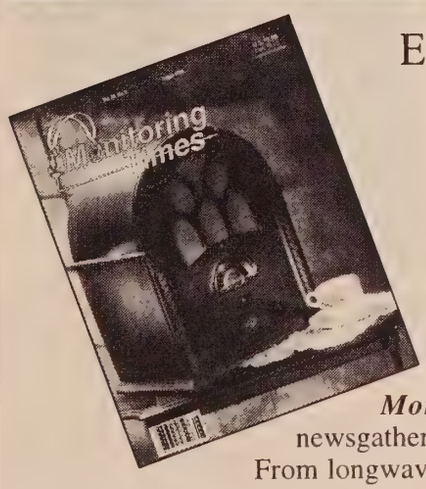

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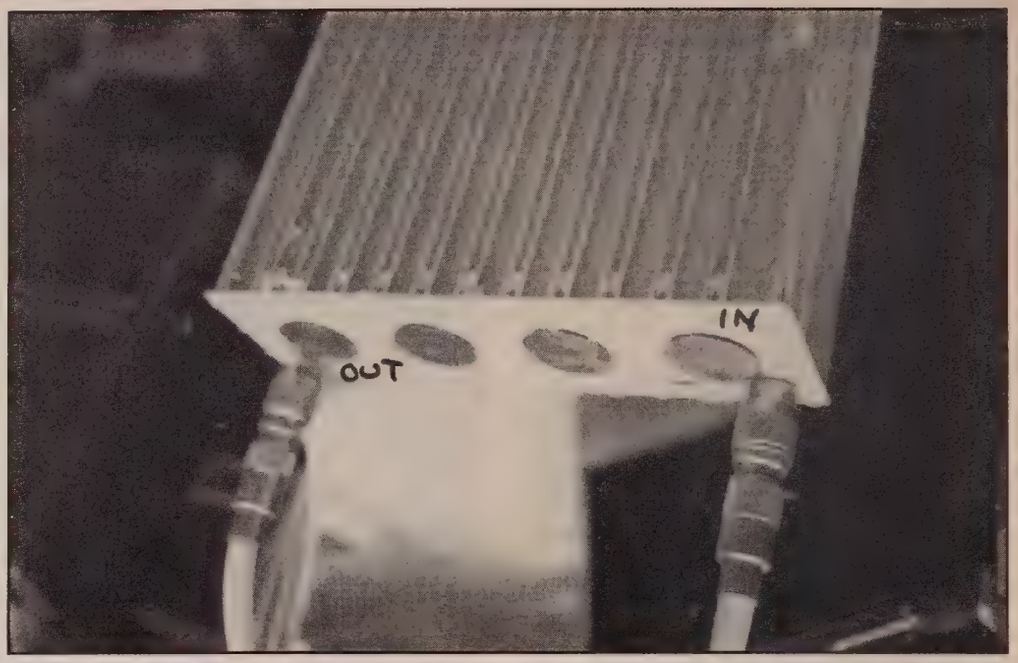
we put it in-line with our big 10 dB gain antenna, the paging interference instantly stopped," adds SEA Tow, Inc.

But the band-pass filter only allows a couple of megahertz to come through on your receiver, completely wiping out any reception on other bands, such as low-band, UHF, and extended UHF. This means you would need some way of switching the filter in and out, depending on what bands you are planning to monitor. The bandpass filter is more for single-band operation than for use with a wide-band, any-frequency, any-band receiver.



Filters simply plug into the antenna line, in series to the radio.

The Notch Filter

Another way to minimize powerful VHF pagers coming through on your wide-range receiver or scanner is the notch filter. Par Electronics of Lantanna, Florida, phone 407-586-8278, offers wide reception on all bands, but with a specific notch of reception, tuned to the offending pager frequency. Par filters are dramatically smaller than passband filters, and the Par notch filter is tuned specifically to 154-MHz or 157-MHz pager frequencies. Again, you need to identify which frequency the offending pager is operating on.

There is only one-half dB loss at operating frequencies, and slightly higher loss up on UHF and extended UHF, plus low-band. In other words, you can leave the Par filter in-line with your wide-band scanning receiver, and you won't notice any change, other than a dramatic decrease in reception capability of the

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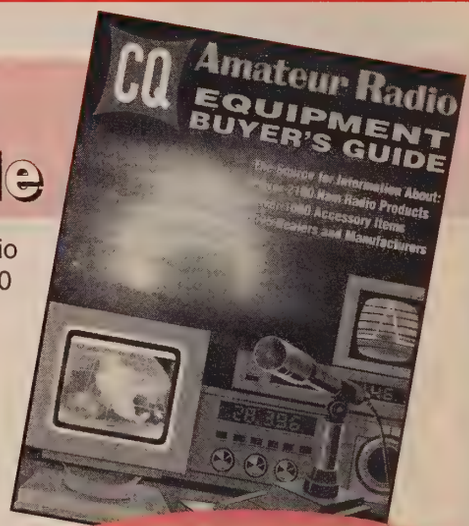

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152-MHz pager frequency. Or, if it's the weather channel that is causing you a problem, you can order the Par filter that is tuned to notch out 162 MHz.

Par also manufactures relatively small filters that may be left in-line with a wide-band handheld receiver. The filter looks a bit strange on top of the handheld, but if you use your radio in a city with all of the pagers on 152 MHz or 157 MHz, the filter could relieve the intermodulation problem, giving you clear reception of the desired frequencies you want to monitor.

These filters are not magic. The bandpass filters rely on tuned cavities to allow only a 1- or 2-MHz band spread of signals to get through, blocking all others. If you look inside the bandpass cavities, there is nothing but air on the inside, or maybe a big single coil.

On notch filters, the cavity is much smaller, and conductors and capacitors are soldered in place and tuned to the specific L/C ratio that takes a specific frequency, and drops it to ground, while allowing other frequencies to freely pass through the filter. In rare cases of intermodulation interference, you may need to run both bandpass, as well as notch filters to pull out a specific signal on single-band reception. But once you add that bandpass filter, forget about receiving anything else on the other bands. It is something to consider.

Other Tricks

Sometimes a directional beam antenna will help minimize major interference. You can also add a one-quarter wavelength coaxial cable trap to minimize intermod. To calculate one-quarter wavelength of coax for the offending signal (234/f MHz = feet and fractions of a foot), multiply your answer by the velocity factor of the coax, usually .66, and then cut off some coax a little bit longer than this measurement. Solder a PL-259 on one end of the coax, find yourself a coax tee-connector, and hook the tee onto your wide-band receiver. The coax to your big antenna goes on one end of the tee, and the quarter-wavelength coax trap goes on the other side. Now, tune into the desired frequency, and listen for the telltale sign of the undesired adjacent frequency pager coming through. When you hear the pager tone trying to sneak through the desired frequency, take that short quarter-wavelength "tail" and start cutting it in quarter-inch slices until the incessant pager tone begins to drop into the noise. When it disappears, double-check that the quarter-wavelength coax stub is a clean cut on the end without accidentally shorting the center conductor to the outside braid, cover it with tape, and you now have your own stop-band notch filter tuned and tested. Give it a try. It works when the offending signal is not all that strong.

Don't blame the radio receiver itself if you are hammered by intermodulation. Remember, we all asked for a wide-band receiver that would tune from DC to daylight! And if you live in a downtown area where there are plenty of strong pager signals, intermodulation will probably be apparent on certain frequencies. If it's a real headache, get the filters, or build your own coax cable notch system, and quiet the squawks. ■

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TRUNKING, TIPS, TECHNIQUES, AND MODS

Keeping Your Radio Focused On Important Scanning Activity

These days, it's hard to find a scanner with less than 100 channels, but 200, 400, and even 1,000 channel units are quite common. Of course, most folks who own the 1,000 channel units don't have them full. Even a lot of 100 channel scanners aren't full. That's OK — in fact, I think that's probably better.

The reason I mention all this is because I see a lot of people who get into this hobby with 200 or 400 channel radios. Great! And why not, since they're so affordable these days. The pitfall is that a lot of scanning novices fall into the trap of thinking they're not getting their money's worth if the radio's not full. So they find things to fill it up.

They wind up listening to a busy radio. The scanner probably doesn't make it through any one bank without stopping a few times, particularly in a metropolitan area of almost any size. And while it's stopped, action taking place on other channels is lost. So, you wind up with a busy radio that talks a lot, but with little or no understanding of the conversations you're listening to. And after a while, they quit listening.

At the average of 25 to 40 channels per second that most of our scanners run, a fully-loaded 400 channel radio will take 10 to as many as 16 seconds to run through, even if the antenna's disconnected. That's a lot of time just for a dry run, and of course, the idea is to have the radio stop now and then for something we're interested in hearing. Sure, your radio stays busy, but what's really going on? Odds are, you probably don't know if you're listening to a scanner programmed like this. You'll hear a lot of activity, but putting the details together gets a bit tough. For most of us (besides Harold "Well, gee, I don't know" Ort), the reason we scan is to keep up with the action. So, how can we scan and still maintain a focus on important activity?

Back in the good old days, they didn't scan! Finding action on this tunable was easy — finding it again was a bit tougher.

Take Inventory

One of the things you can do is to have a look at your situation. What's around you that's important to you? You'll first have to get comfortable with the idea that you're not going to hear everything. So what do you really want to concentrate on? What's of interest? And how much of that is likely to be happening at once? Can you get some mileage by separating agencies into banks? Or geographic areas that need to be "on" and "off" as traffic dictates? Can you create a bank of "Got to scan all the time" frequencies and add and subtract from there by turning banks on and off? Is it reasonable to think you're going to listen to maritime or railroad traffic mixed in with your local police and fire departments? Do you really want to listen to everything all the time, or is it reasonable to turn various things on and off depending on what's happening and what mood you might be in at the time?

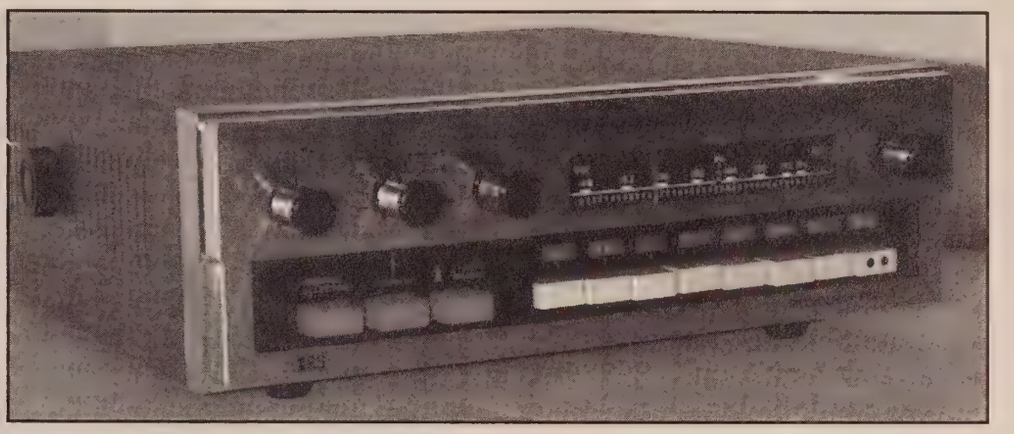
A radio with a priority system can really help quite a bit here. If you can program your number-one frequency into a priority channel, and use it, you'll find that the radio goes back to that channel when there's activity, ensuring you'll hear more of the traffic on that critical channel.

I used to program my local police channel in there, thinking that it was the thing I was most interested in, and didn't want to miss anything. But what I found was that the darn thing interrupted lots of other traffic that was interesting with routine calls and license plate checks. The fire department channel works much better. They don't talk nearly as often, and what they have to say is much more likely to be a major event than the police.

Radios like the PRO-64, that we discussed several months back, have an entire priority bank that can be programmed separately from the other channels in the scanner. (See *Popular Communications* August 1998.) This makes for an excellent way to keep an eye on several channels at once, but it does take some time for the system to cycle through the entire lot. It's kind of a personal preference as to what will work best for your listening tastes.

Beyond the priority system, look at your bank structure. Can you quickly turn on and off groups of frequencies that are related to each other? Can you quickly

get to a bank of just the local stuff if something happens around you? If so, then you're using the bank system to your advantage. Here's another place where your radio may dictate just how much flexibility you have. Most scanners have 10 or more banks. And of course, the number of channels per bank can be a problem too. It's much more important to use those banks to your advantage than it is to fill up every available frequency. You want to be able to switch them in and out quickly, as activity dictates.



One of the early ideas for searching and finding new frequencies was this crystal-controlled scanner, which had seven channels and one tunable frequency. This was tuned on the dial above, and the rotary switch just left of center dictated which channel this was in the scan order. With only eight frequencies to listen to, you could keep up with most of the action.

A Brief Detour Down Memory Lane

When I first got into scanning, (bear with me, I promise not to get too sentimental) the number of channels was extremely limited by today's standards. In fact, my first public safety monitor didn't really scan, but rather was a tunable receiver that covered VHF High and Low, and the UHF frequencies up to 512 MHz. 512 MHz was new back then. The FCC had only recently authorized those areas for public safety and business band use, and only in areas where it didn't conflict with television channels. In our area, we didn't have any television channels in that range, but we didn't have any public safety users either. All the action stopped at 470 MHz. With a tunable receiver parked on a single frequency, you got to know what was happening on that channel pretty well. Of course, you missed a lot of other things.

Scanners were new and expensive toys. When you had one, changing channels was a bit of a problem because you had to buy "crystals" to put into the unit. These crystals determined the receiving frequency, not some keypad entry synthesizer that we're all spoiled with today. Would I want to go back? No way! But there were some definite advantages to learning about scanning back in those early days. My first actual scanner was a crystal-controlled four-channel unit that received VHF High band only.

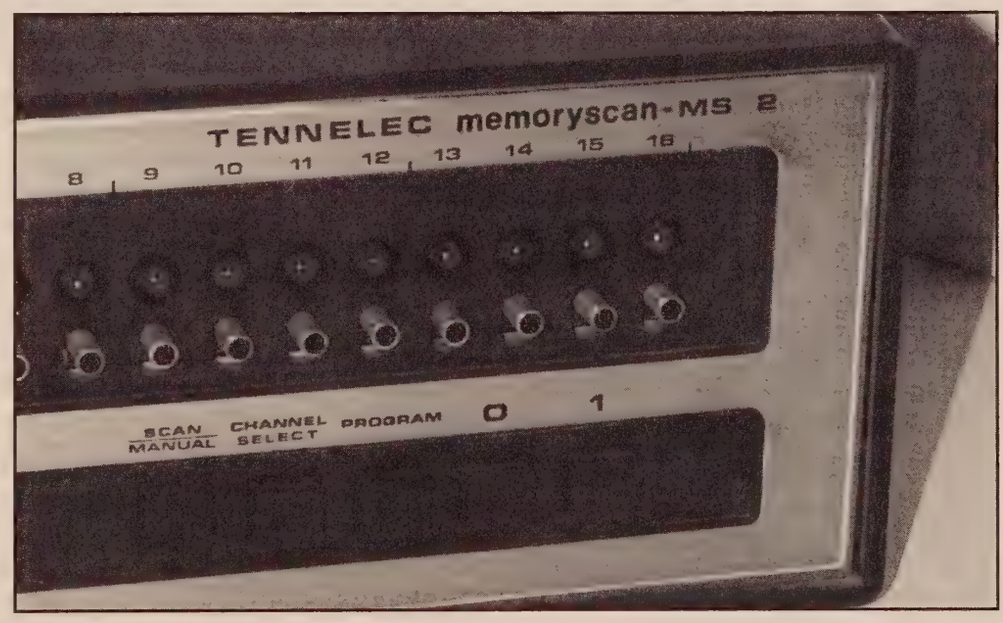
It was only a few years later that synthesized units began to appear (I'm not that old!) *(Right — Ed.).* At first, these synthesized units were programmed with a series of switches and code books. Some of you may remember the early Tennelec and Bearcat 101 receivers that programmed this way. Even the RadioShack "Compuscan" had a series of 1 and 0 codes that were entered by way of a set of programming buttons. These synthesized units expanded the channel capacity to a whopping 16.

Well, of course, it wasn't long before the early keypad programmable units began to appear, and then the number of channels started to rise. Dramatically.

What happened along with this increased capacity to scan anything anywhere was a loss of focus on what you were scanning. You see, with those four-channel scanners, we had lots of opportunity to hear the same dispatchers and cars over and over. You had to, because with only four channels, that was all the action you were going to hear. And you really couldn't afford to "reprogram" the scanner often because you'd have to buy new crystals, not to mention taking the radio apart to change them!

After a while, you got to know just about what shift officers were working just by their voices. And you got to understand the system, and the dispatch codes, and even the beat plans, if you cared to spend the time working them out. We later found out that the ones we had worked out by listening were very close to the real ones that the PD had published. Not bad for a bunch of rookies, eh? The technology controlled the focus of your scanning.

Not only was the number of channels limited, but the amount of information you could listen to was also limited to reasonable amounts by these limitations. As a result, there was more continuity of traffic; you developed a much better picture of the actual activity and calls on a particular channel, because you were on that channel for most of the traffic. So with just a little bit of memory, you could keep track of the fact that the warrant the dispatcher was reading off must apply to the car that



Early programmable radios include this Tennelec MS-2. This second generation portable was programmed with the 0 and 1 buttons from a code book. It took a while to reprogram, but didn't cost $5 every time you wanted to change one of it's 16 frequencies.

just called out on a traffic stop at the corner down the block from your house.

Returning To The Present

Today's bazillion channel radios have lost that ability, or at least buried it beneath a lot of channels and glitz. It's still there, but you'll have to decide not to use some of your radio's capacity in order to gain in understanding and focus. Programming your radio with judicious use of banks is the first step. Put frequencies together that belong together, and turn off the rest. It makes sense to put a local police and fire department together for dispatch operations, so you can tell what's happening on both, but it's also nice to be able to switch through a bank's structure to "all fire" or "all police" should an event occur.

Here's yet another argument for multi-radio. If you have more than one scanner at your disposal, you can have more banks pre-programmed for the big stuff. Or, if you're comfortable listening to the squawking from two or more receivers, you can actually segregate important departments or channels in the different radios and run them both at the same time. Eventually, you develop an ear for what's important and what's not. You'll get used to the fact that if the sound came from the left, it's the fire department, or the police on the right. And you'll have that many more banks available to pre-arrange for things you might want to focus on when they happen. It's a great place to put in other services that you don't want to listen to all the time, but only when the mood strikes you. Get creative!

Enter The Computer

One of the most important functions computer control has added to our scanning arsenal of tricks is the ability to have some intelligence behind the software — to make the scanner do things the stock radio can't. One of the places where it's painfully obvious is the issue of controlling focus.

Most of you know, if you've been reading this column for any length of time, that I'm a big fan of the Optoscan and Probe software. I also use ScanStar which has a similar feature, but not quite as well-implemented. The feature I'm talking about is SmartScan in Probe, or subgroups in ScanStar.

SmartScan allows you to designate certain frequencies as key or "trigger" frequencies. So you would put these channels into your normal "scan it all the time" lineup. Once one of these trigger frequencies goes active, the computer can then do some cool stuff for you, depending on what you've pre-arranged. Probe calls the two modes "Exclusive" and "Non-Exclusive" SmartScanning.

New receivers, like this AR-7000 from AOR, include many enhancements over those old receivers. I wouldn't want to go back to those older sets, but the trick is to make sure you don't spend all your time running the radio and not listening to it!

Let's take the *exclusive* mode first, as this is by far the more common, and the one that ScanStar can also duplicate with its "Subgroups" feature. Once the trigger frequency goes active, all other banks on the scanner are shut down except for the designated "SmartBank," which would be a group of frequencies related to that trigger frequency.

A good example is our state's highway patrol. They dispatch on one of two frequencies, depending on the time of day, and the cars respond on one of two different channels. It's a very large area that's covered even by the local troop, so your chances of hearing the car's callback transmission is fairly low. But as you know, just by hearing the dispatcher's reply to the car, you can often develop a feel for what's happening.

In a normal scanner, you have to scan all four of the frequencies and hope that you're in the right place at the right time to hear the dispatcher. Once you hear something, the radio takes off again, and unless you get very lucky and there's a long delay before the reply, or there's not much other traffic on the scanner, you'll never hear the follow-up. By using the four frequencies as a trigger, the radio can be forced to stay focused on just the highway patrol for several seconds. If any of the frequencies go active, the software shuts off all other banks but the highway patrol and concentrates on those four channels waiting for more activity, or a timer to expire. Once the exchange has finished, the timer will eventually run out (I usually use about 15 seconds) and normal scanning resumes. I must say that since I've been using this system, I have a much better feel for just how busy the highway patrol is for the number of cars they have on the road.

Another good example of this in operation is our local fire dispatch operations. Most fire alarms are dispatched by one of four centralized fire dispatch organizations, depending on the area where the call occurs. In addition, there are a few municipalities around the area that dispatch their own, but we'll ignore them for the moment. In order to hear most of the fire action around town, you essentially have to monitor the four dispatch centers.

Once the call is dispatched, however, most of the action takes place on other channels. The trucks return their call to the dispatch center on another frequency, and then once on the scene, they are likely to switch off to a local "command" channel for the actual operation of the fire. Of course, you have to be fairly close to the fire to hear the command channel activity, as it's mostly low-power handhelds and other simplex activity. There is no sense in scanning any of these command channels or callback channels unless there's something going on. But when something happens, it's likely that you'll want to concentrate on just those channels. Here's where SmartScan comes into play.

In one of my regular banks, I have just the dispatch channels, each of which is a trigger for a different SmartBank with the

appropriate command and callback channels, in addition to a repeat of the dispatch frequency. I don't miss any calls for additional equipment or other calls that might come out during this process. Keep in mind that we're dealing with a computer control system here, so there are 99 banks available. Using a few for SmartBanks isn't too painful. Once the dispatch is made, the software automatically switches in the appropriate SmartBank and locks everything else out. There is a time limit set for how long this will occur if there's no follow-up activity, so that you don't miss too much on other channels while you're focused on the big fire. But if it's a big fire, with lots of activity, the timer will be reset by every call, so you can be there quite a while. You'll be aware of what's going on at that fire in a way that's very difficult with a stock scanner.

It's also worth pointing out that each of the 99 banks that Probe allows can contain up to 1,000 frequencies. Wow! But notice that I'm using much less than that in most cases. Four channels in the highway patrol bank and about six to eight in the fire alarm banks. A waste of space? No. Remember that the name of the game is focus on the activity. And that means banks are what is important, not number of frequencies in any grouping. Besides, with a computer control system, I can always create another disk file that has hundreds or a thousand frequencies per bank, if I would ever want to scan that way (like in a search operation).

Non-Exclusive

Maybe you don't want all the other activity shut down, but would rather just add the extra fire channels to the mix. Here's a good use of the *non-exclusive* SmartScan function. You have the trigger set up to turn on an additional bank of frequencies, but not to shut off all of the others that the radio was listening to. This works great for fires and other major events, where there is likely to be supporting activity on other channels — like the police and possibly media if the fire is large enough to warrant coverage.

Some experimentation is required, but you can find a mix that will leave you with the feeling that you are hearing more follow-up information, and not missing too much of the action as a result. It's an excellent way to control the focus of your scanning. I believe we are just beginning to see the tip of the iceberg in what computer control systems will do for us. What they already can do, with the right software and some experimentation, takes scanning to a whole new level.

Scanning The Web

This month we visit the site of Woody (he'll explain the nickname when you get to the page). You can get there by typing <http://homepage.dave-world.net/~woody99/html/scanner.htm> into your browser. Very interesting scanning information, and a great list of AR-8000 links. Check it out!

If you're looking for equipment, new or used, you might check out <http://www.universalradio.com>. This is the site for the well-known dealer for both shortwave and scanner equipment, Universal Radio. Their famous used equipment list is updated regularly, so check back often if you don't find what you're looking for. If you're in the Columbus, Ohio area, you can drop by and visit their showroom.

A great general interest site is <http://www.dxing.com>. The focus is primarily on shortwave listening, but there is some great introductory information about radio in general, and a scanner section with lots of goodies about frequency usage and nationwide allocations. Check it out!

Scanning The Mail

Mr. Linwood Mixer writes (via E-mail), "I have had a scanner installed in all my vehicles since the 1970s. I have had varied success with the various brands of AM-FM splitters. Have you found one which works better than the rest on the 45-, 155-, and 460-MHz bands?"

The short answer to that question is no. I haven't really done much experimenting lately with splitters on car antennas, but they all seem to perform about the same. No doubt, there are commercial products available (intended for transmit use) that would perform better on one band than others.

Linwood continues "The newest vehicle I'll be installing the scanner in is a 1998 Dodge Ram truck with a fiberglass cap on the bed. I already have three antennas on the Ram; AM-FM, cellular phone, and VHF high band two-way. Would mounting a Austin Condor rubber ducky or Grove's ANT 06 hidden antenna installed inside the fiberglass cap work with satisfactory results in rural terrain?"

Well, that depends entirely on your definition of satisfactory. It will work to some extent, although most of the fiberglass caps I've looked at have an aluminum framework inside. This will probably be grounded to the truck, and work as a shield for a lot of signals. My guess is that it would work about as well as a similar antenna mounted in the back window of a car. For metro areas, it works OK, but in a rural setting, it may not be enough.

The hidden antenna works a bit differently, from what I understand. I've never used one, so I can't tell you from first-hand experience. It effectively uses the vehicle's body as the receiving surface. So instead of a big ground plane area, you have a big antenna. It's not tuned in frequency to anything in particular, but I have been told the results can be fairly impressive. I would probably be willing to bet on the hidden antenna for better results than a cap-mounted rubber duck.

Your Input Needed

"ScanTech" is your column. Please don't hesitate to write in with questions or suggestions. And, of course, I'm always looking for photos of interest to the scanner listener. If you send an SASE, I can return the photos to you after they're scanned, so you won't lose them. Send things via regular mail to Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126, or questions and suggestions via E-mail to <armadillo1@aol.com>. ■

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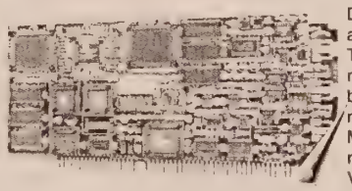

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The Ham Column

BY KIRK KLEINSCHMIDT, NTØZ

GETTING STARTED AS A RADIO AMATEUR

The Dark Side Of The Force

Now that yet another Star Wars movie has graced the big screens everywhere (I'm actually writing this column a week before its release), I'm reminded that George Lucas' "Force" analogy applies equally to Jedi Knights *and* ham operators.

As a beginning ham, you'll soon be faced with the choice offered to Luke Skywalker: Will you choose the virtuous "Light" path, or will you be seduced by the "Dark" side of the force? Be careful — the decision is rarely a conscious one!

Small, seemingly innocent infractions can accumulate and drag you down. Being rude on the air. Being a lid. Intentional interference. Kerchunking the repeater. Letting the thrill of the chase transform you into an amateur radio Darth Vader. These paths all lead to the dark side — and the choice is yours alone.

I've been on the butt end of more than a few bad radio encounters. We all have. But I will never forget an incident that, for me, epitomizes bad operating. It left me feeling hollow and wondering about the integrity of my fellow hams. I was 27 years old at the time, and I'd been a ham since I was 13. DXing and paper-chasing were my mainstays then. In all my years as a ham, I had never had a decent 80-meter antenna or a "good" 80-meter DX location. Moving to the East Coast changed all that, and I set out in search of countries on the lower bands. My antenna wasn't *that* spectacular, however, and I didn't use an amplifier, so working Europeans on 80-meter CW was a thrill in itself. Heck, as a kid I'd worked thousands of Europeans on 20, 15, and 10 meters — but never on 80. From my rather unspectacular Midwest location, working Europe on 40 meters was rare and exciting. (With my present antenna, a 40-meter horizontal loop, working EU stations from Minnesota is now a walk in the park — but that's fodder for a future column).

One night, much to my surprise, I heard a nice, "plenty strong" 80-meter CW call coming from a station in Oman. I was stunned! This wasn't just Europe, it was the Middle East! I knew I'd better catch this one as soon as possible (before the Packet Cluster Weenies got wind and all was lost). I called. He came back to someone else. Next turn, I called again — and he came back to me! The problem was, he had only the "0Z" part of my callsign, and he kept asking for the rest. What happened next shook my faith in amateur radio. "0Z? 0Z?" the op kept repeating — and every time he did, a powerful station in Ohio kept transmitting its callsign on top of me (I looked up the callsign — a big-time contest club station). Through five patient rounds, the station in Oman kept trying to get my callsign, and each time he asked for me *only*, the 8-land big-gun wiped me out. Finally, the Oman op apologized and moved on to work others who had swarmed in from Packet Cluster Land.

Make no mistake. The 8-lander wasn't confused. He could hear me just fine. He was simply being a lid. Purposefully. And in the process, he crushed my 14-year dream. He just took it away from me. After 20 years of hamming, I have yet to work the Middle East on 80 meters!

I'm sure you've encountered something similar, and if you haven't yet, you will. Be prepared. Practice forgiveness in advance or your blood pressure will likely suffer!

Human Nature

The specifics of how bad radio behavior comes about are probably moot. The fact is, ham operators — though technical pioneers, homemakers, carpenters, and wonderful comrades — are people, too. And people act strangely every now and then. Always have, always will.

Although every generation of new hams seems to think radio rudeness is a modern creation, it's not (old-timers often contribute to this myth by recounting radio's fabled "good old days," which, when reviewed impartially, weren't always so good. Uncrowded, yes. Pioneering, sure. Filled with friendship and imbued with a sense of wonder, absolutely. Free of bad behavior — no way!).

Poor operating is probably more noticeable nowadays because the number of hams has dramatically increased over the decades, which, ironically, increases the need for good on-air behavior.

The SG-231 feeding a horizontal loop at the author's shack.

To our credit, as members of a radio *service*, the ranks of those hams who are habitual offenders comprise a tiny minority. But a healthy dose of prevention is always a good idea. And, erring on the side of courtesy is more desirable than its alternative.

In examining several facets of one key practice — finding a clear frequency — this month's column is really about common sense and common courtesy, qualities every new ham should cultivate (along with patience!).

A Frequency To Call Your Own

Hams, or groups of hams who, for whatever reason, seem to have "laid claim" to certain frequencies, can be problematic in any era. FCC regulations and common courtesy clearly indicate that emergency communications *always* have priority. And when emergencies do not exist, frequencies are appropriately utilized on a "first-come, first-served" basis.

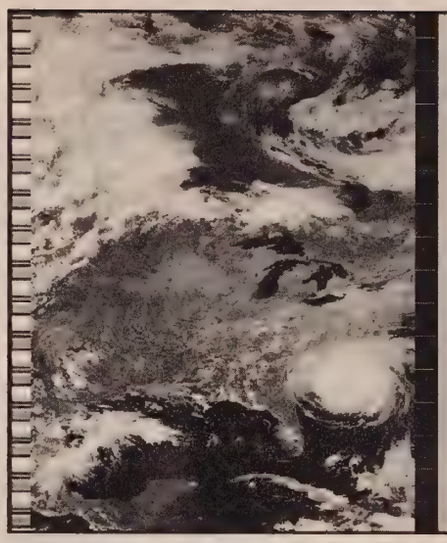
Even if everyone's not playing by the rules, *you* should. Here's how considerate operators find clear frequencies.

• First, tune up your rig and/or antenna tuner with as little power as possible.

Carelessly laying down a strong carrier on an "in-use" frequency is rude at best, life-threatening at worst. Most modern antenna tuners and SWR/power meters will tune up just fine with 5 or 10 watts instead of 100 or 1,000. If you're really considerate, use one of several new devices to tune up your antenna system without radiating *any* power.

• Before you call CQ, tune the part of the band you want to operate on and then listen. Then listen some more. You'll get a good initial idea of propagation and general activity, both of which vary daily, seasonally, and yearly.

• When you've found what seems to be an unused, clear HF "channel," say (for voice modes): "Is this frequency in use? This is NT0Z." (Use your own callsign.) If you're using Morse code, send: "QRL?" No matter what "QRL?" meant in the early days, it now means, "Is this frequency in use?" If a frequency *is* occupied, you should hear a polite, "Yes it is, thanks for asking," or something similar. On CW, you might hear "QRL" or the Morse letters "C" or "R." Even if you get no immediate reply, the frequency may still be in use. This happens most often on 15, 10, and 6 meters, where, because of propagation, two ops may be conversing, but you can hear only one of them. Be patient! Keep your first transmission short just in case.



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• Considerate operating procedures should be the rule, not the exception. Set the best possible example for others. When that DX station says he's "listening for nines," if you're callsign doesn't have a nine, don't transmit — even if a dozen other ops do. When the DX is listening "up five," don't transmit on the DX ops calling frequency.

Repeaters

On repeaters, here are some good operating tips.

• As usual, always *listen* before you key up a repeater. If others are using the machine and you need to make a call, simply say your callsign between their transmissions. When one of the ops acknowledges you, say, "This is NT0Z, I'd like to make a quick call." Wait for the go-ahead, then make your call: "W1XYZ from NT0Z." If your friend responds, ask him to move to a simplex frequency where you both can talk. Then, thank the others for letting you make the call and pop over to your new simplex frequency. If your call gets no reply, offer a quick "thanks" and clear off the machine so the others can resume. It's simple. It's common courtesy.

• Emergencies are a whole different ball game. Interrupt an in-use repeater by saying, "Break," or "Break-emergency." Emergency situations *always* take priority, so don't worry about upsetting anyone's conversation.

• Whenever you use the repeater, be sure to pause between transmissions so others can break in if necessary. And don't blab on endlessly during "prime-time" repeater hours (early morning and late afternoon for most regions).

Standing firmly on the "Light" side isn't always easy. Setting a good example may mean that you don't get through. You might miss that DX station. You might not get a chance to work that rare Special Event station. That long-winded op in New Hampshire or Wyoming may blab with his or her friends all morning — and never get around to you. If your operating practices win out, however, your dignity will still be intact, which is more important in the end. And it's more important for amateur radio.

Keep sending your photos, letters, and column suggestions to me at "The Ham Column," c/o *Popular Communications*, 25 Newbridge Road, Hicksville, New York 11801. ■

Technology Trends

How fast is your antenna tuner? And what's its IQ? Until I had an opportunity to use SGC's Model 231 Smartuner, my view of antenna tuners had always been bland and utilitarian. The microprocessor-controlled 231 changed that in a jiffy.

In a nutshell, this tuner — really an antenna coupler — tunes just about anything from DC to daylight (1 to 60 MHz) in a blink of an eye (and sometimes faster). Designed for marine mobile and base applications, the 231 needs at least an 8-foot wire or whip to tune 160 through 6 meters. If you have more real estate, the tuner can handle almost any antenna configuration and up to several hundred feet of wire.

This unit maxes out at 100 W PEP and is perfect for today's compact HF through 6-meter mini rigs. The best part is that it only requires 3 watts of drive power to "tune." It's water-resistant housing is designed for outdoor installations. For lightning-fast tune-ups, the SG-231 remembers the tuning solutions it comes up with on different parts of the band. The next time you tune up there — flash! — the 231 is tuned in a fraction of a second and ready for your RF. If you have one antenna for use on multiple bands, changing bands is almost instantaneous. Typical autotuners tune up slowly every time they're used.

The photo shows the SG-231 in my shack feeding my 5.8-MHz horizontal loop through a 50-foot run of 450-ohm open-wire line. The unit tunes this antenna from 160 through 6 meters with no problems. Although the user's manual — and the technical guys at SGC — strongly suggested that I place the coupler at the antenna feed point, I didn't want to hoist the handy little tuner into the air.

For more information, point your Web browser to <http://www.sgcworld.com/>. Also available there is an excellent book on "Stealth" (invisible) HF antennas that's free for downloading (adobe PDF format). Check it out at <http://www.sgcworld.com/stealth.htm>.

How I Got Started

Congratulations To Emmitt Jackson Of Oregon!

Popular Communications invites you to submit, in about 150 words, how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

Each month, we'll select one entry and publish it here. Submit your entry only once; we'll keep it on file. All submissions become the property of *Popular Communications,* and none will be acknowledged or returned. Entries will be selected taking into consideration the story they relate, and if it is especially interesting, unusual, or even humorous. We reserve the right to edit all submitted material for length, grammar, and style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications.* Address all entries to: "How I Got Started," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos.

Our August Winner

Emmitt Jackson of Merlin, Oregon, writes, "As a young man during the '60s, I used to listen to Wolfman Jack on the 'Mighty 1090,' XERB with 100 kW from Mexico. I built my own radio back then using an old Philco tuner, Vox guitar amp, and 12-inch speaker. What sound! In 1971, I got my first scanner, a Regency eight-channel crystal set, plus a three-channel Midland CB radio. Both mounted in my car. In those days, there was very little to hear on a scanner. UHF was vacant and a lot of stuff was on low band!

Emmitt Jackson at the controls in Oregon.

I've put together a nice collection of gear and am adding to it all the time, as I'm in security and law enforcement. My scanners run non-stop; a PRO-2035 and BC-9000XLT at home, a PRO-74 portable travels with me, and a BC 7 Bearcat is in the pickup. Other gear includes a Cobra base CB, RadioShack shortwave, Sangean 818CS, and a '29' in the pickup. Sadly though, my house has a 'no antenna' rule. What's a good radio buff to do? I took a metal wheel and mounted a three-section mast in it, set it in the yard, and voila — nothing on the house! I've even got a longwire attached to it, and two beams.

I've been a loyal *Pop'Comm* reader since the first issue in 1982. Thanks *Pop'Comm* — and here's a list of my area scanner frequencies." ■

Josephine County/City Of Grants Pass Frequencies

Service	Frequency (MHz)	Service	Frequency (MHz)
Grants Pass Police Main	155.010	Radar Spotters	155.475
Grants Pass Fire Main	154.385	Car-to-car	156.030
Safe Teams (SWAT/TAC)	155.850	Game Wardens (simplex)	158.895
Public Works (and TAC at night)	158.940	Medford City Police	156.090
Sheriff's Dept.	154.725	Medford City Police Main	156.210
Sheriff's Dept. Main Dispatch	154.830	Central Point Police	155.250
Inter County	155.490	Ashland Police	155.010
Search/Rescue	155.805	Rogue River Police	155.610
Search/Rescue State Freq.	155.160	Grants Pass Rural Fire/Transport	154.370
Oregon State Police Station 30	154.680	Seven Feathers Gaming Center	151.805
Oregon State Police Station 35	154.785	Seven Feathers Gaming Center	151.865
Oregon State Police Station 37	154.815	Seven Feathers Gaming Center Security	158.925
Oregon State Police Station 34	154.860	Grants Pass Towing	464.400

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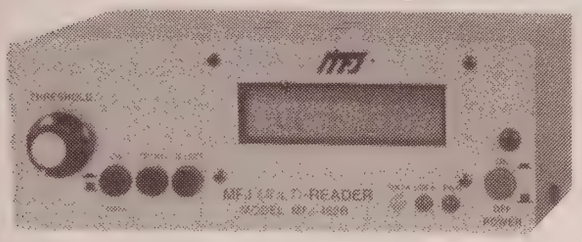

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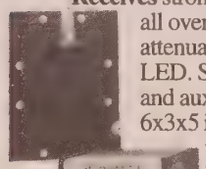
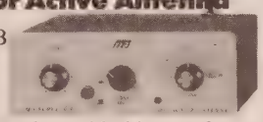


Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 54 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with MFJ-1312, $12.95.

$129.95 MFJ-1024

Indoor Active Antenna

MFJ-1020B **$79.95**

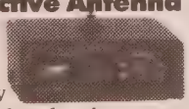


Rival outside long wires with this *tuned* indoor active antenna. *"World Radio TV Handbook"* says MFJ-1020 is a "fine value . . . fair price . . . best offering to date . . . performs very well indeed."

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as preselector with external antenna. Covers 0.3-30 MHz. Has Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip, 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Compact Active Antenna

MFJ-1022 **$39.95**



Plug this new *compact* MFJ all band active antenna into your general coverage receiver and you'll hear strong clear signals from all over the world from 300 KHz to 200 MHz -- including low, medium, shortwave and VHF bands.

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Now! ***Completely*** eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

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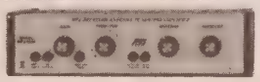

Matches your antenna to your receiver so you get maximum signal and minimum loss.

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Dual Tunable Audio Filter

MFJ-752C **$99.95**

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

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Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture saver.

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High-Q Passive Preselector

MFJ-956 **$39.95**

The MFJ-956 is a *high-Q* passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded pos. 2x3x4 inches.

Super Passive Preselector

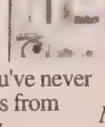
MFJ-1046 **$99.95**

Now! **Improves** any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q *series tuned* circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband loss. Air variable capacitor with vernier. 1.6-33 MHz.

Easy-Up Antennas Book

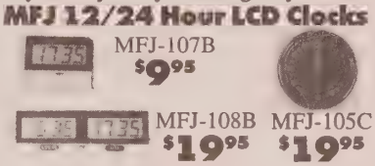
How to build and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in like you've never heard before. Antennas from 100 KHz to 1000 MHz.

MFJ-38 **$16.95**



MFJ 12/24 Hour LCD Clocks

MFJ-107B **$9.95**



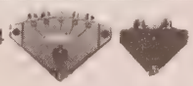
MFJ-108B **$19.95** MFJ-105C **$19.95**

MFJ-108B, dual clock displays 24 UTC and 12 hour local time *simultaneously*. **MFJ-107B**, single clock shows you 24 hour UTC time. ***3 star rated*** by *Passport to World Band Radio*!

MFJ-105C, accurate 24 hour UTC quartz *wall clock* with large 10 inch face.

MFJ Antenna Switches

MFJ-1704 **$59.95**



MFJ-1702C **$21.95**

MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection device. Good to 500 MHz. 60 dB isolation at 30 MHz.

MFJ-1702C for 2 antennas.

World Band Radio Kit

MFJ-8100K **$59.95** *kit*
MFJ-8100W **$79.95** *wired*

Build this *regenerative* shortwave receiver *kit* and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

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Pop'Comm's World Band Tuning Tips

August 1999

This listing is designed to help you hear more shortwave broadcasting stations. The list includes a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC	Freq.	Station/Country	Notes
0000	4830	Radio Litoral, Honduras	SS
0000	4985	Radio Brazil Central, Brazil	PP
0000	5905	Radio Ukraine Int'l.	
0000	9895	Radio Netherlands	SS
0000	10260	China National Radio	CC
0000	11925	Radio Bandierantes, Brazil	PP
0000	11985	Merlin Network One, England	
0030	7345	Radio Prague, Czech Rep.	SS
0030	9855	Radio Vilnius, Lithuania	via Germany
0030	11620	All India Radio	
0030	11705	Radio Japan	via Canada
0030	11935	Radio Jordan	AA
0030	11960	Radio Denmark	DD via Norway
0030	15395	Radio Thailand	
0100	4845	Radio Clube do Para, Brazil	PP
0100	5030	Adventist World Radio, Costa Rica	SS
0100	5640	Radio Peru	SS
0100	6055	Radio Exterior de Espana, Spain	
0100	7250	Voice of Vietnam	via Russia
0100	7300	Radio Slovakia Int'l.	
0100	9735	Radio Nacional, Paraguay	SS
0100	17815	Radio Cultura, Brazil	PP
0130	4770	Radio Centinela del Sur, Ecuador	SS
0130	6536	Radiodif. Huancabamba, Peru	SS
0130	9575	Radio Medi Un, Morocco	AA
0130	15495	Radio Kuwait	AA
0140	7450	Voice of Greece	GG/EE
0145	6115	Radio Tirana, Albania	
0200	3280	La Voz del Napo, Ecuador	SS
0200	4840	Radio Amazonas, Venezuela	SS
0200	6498	Radio Altura, Peru	SS
0200	9445	Voice of Turkey	TT
0200	9570	Radio Romania Int'l.	
0200	9840	Radio Budapest, Hungary	
0200	9885	Swiss Radio Int'l.	FF
0200	9965	Voice of Armenia	Armenian
0200	9990	Radio Cairo, Egypt	AA
0200	11710	RAE, Argentina	
0200	11765	RAI, Italy	II
0200	11920	RTV Marocaine, Morocco	AA
0200	15640	Kol Israel	HH
0230	4800	Radio Buenas Nuevas, Guatemala	SS
0230	4905	Radio Anhanguera, Brazil	PP
0230	9165	Radio Dada Gorgud, Azerbaijan	Azerbaijani
0230	9200	SNBC, Sudan	AA
0230	15520	Voice of Russia	
0300	7300	Voice of Russia	
0300	4996	Radio Andina, Peru	SS
0300	5890	Radio Mi, Honduras	SS
0300	7110	Radio Ethiopia	Amharic
0300	9485	Radio Bulgaria	
0300	9530	Deutsche Welle, Germany	
0300	9625	CBC Northern Service, Canada	
0300	9740	Broadcasting Svc. of Kingdom of Saudi Arabia	AA
0300	17510	KWHR, Hawaii	
0300	17675	Radio New Zealand	
0330	5960	Radio Japan	via Canada
0330	5970	Radio Exterior de Espana	SS
0330	6940	Radio Fana, Ethiopia	vern.
0330	7115	Radio Sweden	
0330	9690	China Radio Int'l.	via Spain
0330	13675	UAE Radio, Dubai, UAE	
0345	4800	Radio Lesotho	
0400	4278	AFRTS, Florida	USB
0400	4991	Radio Apinte, Surinam	DD
0400	5500	Voice of the Tigray Revolution, Ethiopia	vern.
0400	5945	Croatian Radio	Croat/EE
0400	9525	Channel Africa, S. Africa	FF
0400	9905	Swiss Radio Int'l.	
0400	11530	Voice of Hope, Lebanon	
0400	11785	Deutsche Welle, Germany	
0400	13730	Radio Austria Int'l.	
0430	3356	Radio Botswana	
0430	4955	Radio Nacional, Colombia	SS
0430	9820	Radio Havana, Cuba	
0500	4770	Radio Nigeria, Kaduna	
0500	5055	RFO Cayene, French Guiana	FF

UTC	Freq.	Station/Country	Notes
0500	6110	Radio Japan	
0500	7255	Voice of Nigeria	
0500	9900	Radio Minurca, Central African Rep.	
0500	11955	Radio Nacional, Angola	PP
0500	15215	Channel Africa, S. Africa	
0530	5047	Radio Lome, Togo	FF
0530	5055	Faro del Caribe, Costa Rica	SS
0530	6015	Radio Austria Int'l.	via Canada
0600	4870	ORNB, Benin	FF
0600	4915	Ghana Broadcasting Corp.	
0600	5020	ORTN, Niger	FF
0600	6050	Radio Nigeria, Ibadan	
0600	6185	Radio Educacion, Mexico	SS
0630	6020	Radio Victoria, Peru	SS
0630	7125	RTV Guineenne, Guinea	FF
0630	9660	Vatican Radio	
0700	4835	RTV Malienne, Mali	FF
0700	7110	Radio Tirana, Albania	Albanian
0700	9440	Radio Slovakia Int'l.	
0700	11950	HCJB, Ecuador	
0700	11990	Radio Slovakia Int'l.	
0730	6155	Radio Austria Int'l.	
0745	9870	Trans World Radio, Monaco	
0800	9710	Radio Australia	
0830	6115	Radio Tampa, Japan	JJ
0900	3310	Radio Moxochaki, Bolivia	QQ
0900	6010	Radio Mil, Mexico	SS
0900	6160	CKZU, Canada	relay CBU
0900	11880	Radio Australia	
0930	5950	Guyana Broadcasting Co.	
0930	6020	Radio Australia	
0930	7260	Radio Netherlands	
0930	6064	Colmundo, Colombia	SS
1000	4920	Radio Quito, Ecuador	SS
1000	4980	Ecos del Torbes, Venezuela	SS
1000	5077	Caracol Colombia	SS
1000	11635	FEBC, Philippines	
1030	4600	Radio Perla del Acre, olivia	SS
1030	9865	Trans World Radio, Guam	
1030	11715	Radio Korea Int'l.	
1100	2310	Radio Enga, Papua New Guinea	Pidgin
1100	4790	Radio Atlantida, Peru	SS
1100	9700	Radio New Zealand	
1100	9710	Radio Vilnius, Lithuania	Lithuanian
1100	11335	Radio Pyongyang, North Korea	
1100	13650	Radio Pyongyang, North Korea	
1100	15125	Radio Republik Indonesia	
1130	9650	Radio Korea Int'l.	via Canada
1130	12015	Voice of Mongolia	
1130	18960	Radio Sweden	
1200	4890	NBC, Papua New Guinea	Pidgin
1200	9610	Radio Taipei Int'l.	
1200	11675	China Radio Int'l.	
1200	11840	Radio Polonia, Poland	
1200	15700	Radio Bulgaria	
1230	9810	Radio Thailand	
1230	15425	Sri Lanka Broadcasting Corp.	
1230	15476	Radio Nac. Archangel, Antarctica	SS/EE
1230	17670	YLE, Radio Finland	
1300	13640	Radio Oman	AA
1330	9425	Radio Sweden	
1330	9615	KNLS, Alaska	
1330	15295	Radio Tashkent, Uzbekistan	
1330	17895	Channel Africa, S. Africa	
1400	7245	Radio Singapore	vern.
1400	9495	KFBS, Saipan, No. Marianas	CC
1400	9660	Radio Veritas Asia, Philippines	RR
1400	11570	Kazakh Radio	RR
1400	13820	Radio Marti, USA	SS
1400	15465	Radio Pakistan	EE/Urdu
1400	17560	Radio France Int'l.	via Fr. Guiana
1400	21515	RDP, Portugal	PP
1400	21520	RAI, Italy	II
1400	21745	Radio Prague, Czech Rep.	
1400	25820	Radio France Int'l.	FF
1430	9700	All India Radio	Hindi
1430	9740	BBC	via Singapore
1430	9840	Voice of Vietnam	VV
1430	11785	Radio Iraq Int'l.	AA
1430	12010	Swiss Radio Int'l.	
1430	15240	Radio Sweden	
1500	11760	Radio Republik Indonesia	II
1530	15405	VOIRI, Iran	RR
1600	11690	Radio Jordan	
1600	13630	UAE Radio, Dubai, UAE	
1600	13765	Vatican Radio	
1600	15435	Radio Jamahiriya, Libya	AA
1600	17850	Radio France Int'l.	
1645	17545	Reshet Bet, Israel	HH
1700	15365	Radio Romania Int'l.	
1700	17680	Voz Cristiana, Chile	SS
1700	17870	Channel Africa, S. Africa	
1745	12130	Adventist World Radio	via S. Africa
1800	15345	RTV Marocaine, Morocco	AA
1800	15475	Africa Number One, Gabon	FF
1830	11990	Radio Kuwait	EE
1830	13745	Radio Vlaanderen Int'l., Belgium	
1900	11570	Radio Pakistan	vern.
1900	15185	Radio Africa, Equatorial Guinea	
1930	9780	Rep. of Yemen Radio	AA
1930	15315	Radio Netherlands	via Bonaire
2000	11402	Icelandic National Broadcasting Service	Icelandic
2000	11605	Kol Israel	
2000	11715	Radio Algiers Int'l., Algeria	
2000	13720	Radio Havana, Cuba	
2000	13770	Swiss Radio Int'l.	
2000	15084	Voice of Islamic Rep. of Iran	Farsi
2000	21620	Qatar Broadcasting Service	AA
2030	11675	Voice of Russia	
2030	15415	Voice of Africa, Libya	
2100	11755	Merlin Network One, England	via Canada
2100	12085	Radio Damascus, Syria	AA/EE
2200	9565	Radio Universo, Brazil	PP
2200	9645	Radio Bandeirantes, Brazil	PP
2200	11740	Voz Cristiana, Chile	SS
2200	17715	Radio Australia	
2230	15345	RAE, Argentina	SS
2230	15505	Radio Kuwait	AA
2230	15565	Radio Vlaanderen Int'l., Belgium	via Bonaire
2300	7270	Radio Tirana, Albania	
2300	11785	Radio Guiaba, Brazil	PP
2330	6010	Radio Inconfidencia, Brazil	PP ■

Product Parade

BY HAROLD ORT
AND R.L. SLATTERY

REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS

Yellow Book: Beginning CB Repair

Topics include:
Antenna Test, Boosting Transmit Power, CB Troubleshooting, History of CB, Installation, Linears, Mic Wiring, Noise, Reading Schematics, Sliders, Technical Slang, Transistor & IC Secrets
Ken Touhey

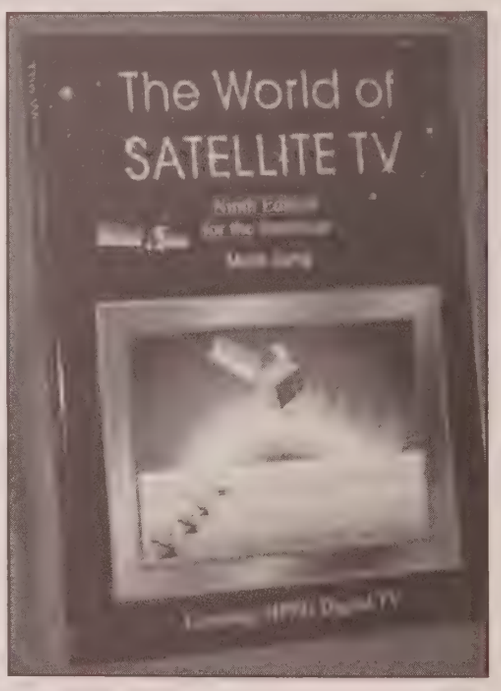
Yellow Book: Beginning CB Repair *is available from CRB Research Books, Inc., in Commack, New York.*

Anyone Can Fix Their Own CB

It's absolutely true: you can stop shelling out those fat fees to repair shops. You can simply be the average Joe and successfully perform the majority of the CB installations, repairs, and modifications you'll ever encounter! Ken Touhey easily proves it in his knowledgeable and fact-filled *Yellow Book: Beginning CB Repair*. Written for the typical CB operator having minimal technical training and background, the author explains and then details everything you need to know to get started. Furthermore, he makes it quite painless, including understanding schematics, using test equipment, checking and troubleshooting CB rigs, and fixing SWR problems.

In his illustrated book, Ken compares and rates various CB antennas against one another (giving specific makes and models), provides information on installing specific CBs, explains boosting transmit power, tells how to get rid of noise, offers microphone wiring and plug problems (pin function information is provided for specific mics), frequency synthesizers and sliders, IC secrets, and more. Also, the author clues you in on how to earn as much as $60 doing CB installations for people who haven't read his book!

More power to this kind of thinking! We liked this book a lot. The *Yellow Book: Beginning CB Repair* is $24.95 plus $6 shipping/handling ($7 to Canada) from CRB Research Books, Inc., P.O. Box 56, Commack, NY 11725. Residents of New York State please include $2.55 tax. VISA/MC/Discover welcomed. Phone orders to CRB at 516-543-9169; FAX 516-543-7486 or use their fully secure Website at <http://www.crbbooks.com>.



Mark Long's book, The World of Satellite TV *is $24.95 and well worth the price!*

Eye In The Sky

Mark Long, who once wrote a satellite column for *Pop' Comm,* is one of the leading authorities on satellite TV. His *The World of Satellite TV* has become the indispensable handbook of the digital satellite TV industry, and recognized as the primary guide to direct-to-home satellite TV. Now, Mark has an all-new 9th edition of his popular guide for the Americas, and he has put in everything you need to know!

This 256-page illustrated book covers selecting, installing, and maintaining your own satellite TV system. Also, digital video compression, HDTV, and other innovations are covered in Mark's easy-to-read style that can be understood by everyone. The book is filled with maps, charts, tables, satellite "footprints," pictorials, and photos.

Newcomers and professionals will find this book informative and useful. *The World of Satellite TV* is $24.95 and comes from The Book Publishing Co., P.O. Box 99, Summertown, TN 38483. Phone 931-964-3571 or E-mail them at <bookpubl@usit.net>.

Clandestine Radio: An Inside Look

For those fascinated by the intrigue of unlicensed and underground broadcasting stations whose main purpose is to advocate cultural or political dissent, we have a book for you. Lawrence Soley's authoritative new book, *Free Radio: Electronic Civil Disobedience*, is a scholarly 148-page study of these stations, including their history, the reasons they have appeared and existed in different eras, and how they led up the present American microbroadcasting phenomenon.

This 148-page book is a must-have if you're interested in broadcast history, pirate/clandestine radio, microbroadcasting, or politics.

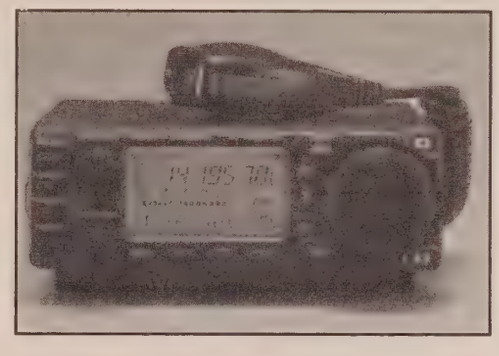
In fact, underground broadcasters fomenting civil disobedience date back to those operated by Hitler's early political opponents, and anti-Nazi stations later proliferated throughout World War II. Soon after the war, clandestine broadcasters were being operated around the world to protest against European colonial policies. In America's turbulent '60s, these stations began cropping up, much to the dismay of the FCC. And by the 1970s, such stations were operating in almost every nation where repressive governments were in power. Soley's well-indexed book takes his readers through this tapestry of secret stations and annoyed governments, and never once fails to deliver a fascinating read. His book should be of particularly high interest to everyone dazzled by broadcast history, clandestine/pirate radio, microbroadcasting, and politics.

This hardcover book is by an author who did an enormous amount of research. Matter-of-fact, Soley is an expert on underground and propaganda broadcasting. His previous related books include *Radio Warfare, and Clandestine Radio Broad-casting. Free Radio: Electronic Civil Disobedience* is $52 and available from the Westview Press, 5500 Central Avenue, Boulder, CO 80301. Phone 303-444-3541 or FAX them at 303-449-3356.

New ICOM 706 Series Transceiver

ICOM has introduced the new IC-706MKIIG, with the same features as the performance-proven '706MKII, plus several enhancements. The IC-706MKIIG carries on the '706 series tradition of base station performance and features in a mobile rig-sized package.

ICOM first introduced the 706 back in 1995 with a multitude of features in a small package; HF, 6-meters, and 2-meters. Then two years later, they introduced the IC-706MKII with still more features and power. Now, ICOM has added more power on the 2-meter band and added 440 MHz capability. Of course, all-mode operation (SSB, CW, RTTY, AM, and FM) is possible, and a full 100 watts of output power is available for HF and 6-meter operation; 50 watts for 2-meters and 20 watts for 70-cm operation. The rig has an automatic repeater function. Repeater frequencies can be programmed via a special operation, eliminating the need to program repeater offset settings for 6- and 2-meters and 70-cm operation.



The ICOM IC-706MKIIG is a brand new all-mode amateur transceiver with removable faceplate.

The 706MKIIG provides CTCSS encode/decode, as well as DSP capabilities. These include noise reduction and auto notch functions. Repeater tones can be programmed automatically using the easily-executed tone scan feature. If you like using memory channels, the IC-706MKIIG allows you to assign memory names to each channel.

ICOM's unique radio construction includes a one-piece aluminum, die-cast

(Continued on Page 76)

DEDICATED TO THE SCANNING AND SHORTWAVE ENTHUSIAST.
WE'RE MORE THAN JUST SOFTWARE!

NEW!! JUST RELEASED! VERSION 7.5

SCANCAT GOLD for Windows "SE"
Since 1989, The Recognized Leader in Computer Control

Once you use SCANCAT with YOUR radio, you'll NEVER use your radio again WITHOUT SCANCAT!

SCANCAT supports almost ALL computer controlled radios by: AOR, DRAKE, KENWOOD, ICOM, YAESU and JRC (NRD) Plus PRO-2005/6/35/42 (with OS456/535), Lowe HF-150, and Watkins-Johnson .

NOW SUPPORTS AOR AR16B - AR8200B & TEN-TEC RX320

SCANCAT GOLD FOR WINDOWS "SE"
(Surveillance-Enhanced)

FEATURES

- Selective Sound Recording using PC-compatible sound card. "Point & Shoot" playback by individual hits.
- Demographic search for frequency co-ordination and 2-way Usage Analysis.
- Detailed logging to ASCII type files with DATE, TIME, Sig Str, Air Time.
- 6 New sweep Analysis Functions.
- Exclusive "MACRO" control by frequency of Dwell, Hang, Resume. Sig. Treshhold and even 6 separate programmable, audible alarms.
- Command line options for TIMED ON/OFF (Unattended) logging/searches.
- Run as many as 6 different CI-V addressable radios as "Master/Slave".
- New! Scheduling/Recording Functions.

With Scancat Gold for Windows "SE," your spectrum never looked so good! Load virtually "any" database and Scancat "SE" will examine your database, plot each and every frequency, no matter what the range...and "paint" the entire analysis on your screen.

SEVERAL GRAPHICAL ANALYSIS MODES AVAILABLE

- By Signal Strength per frequency in a "histograph".
- By Signal Strength plotted in individual dots.
- By Number of hits per frequency in a "histograph".
- IF THAT ISN'T ENOUGH, try this...Multicolored, 3-D "Spatial/Landscape".

SCANCAT GOLD "SE"...$159.95 + S & H* UPGRADE SCANCAT GOLD V7.5 "SE"...$59.95 + S & H*

SCANCAT'S WINDOWS FEATURES

- Unattended Logging of frequencies
- Scan Create Disk Files.
- Spectrum Analysis to Screen OR Printer.
- Supports PerCon, Mr. Scanner, and Betty Bearcat CD Roms.
- Scan VHF & HF Icom's Simultaneously.
- LINK up to 100 Disk files or ranges.
- MULTIPLE search filters for Diskfile Scanning.
- New – Programmable Favorite Frequency "Quick Buttons"
- Search by CTCSS & DCS tones with OS456/535 or DC440 (ICOM only).
- INCLUDES several large shortwave and VHF/UHF databases

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All the features you EXPECT from a true Windows application such as:

- VERSATILE "Functional" spectrum analysis. NOT just a "pretty face". Spectrum is held in memory for long term accumulation. Simply "mouse over" to read frequency of spectrum location. "CLICK" to immediately tune your receiver. You can even accumulate a spectrum from scanning DISKFILES of random frequencies!
- DIRECT scanning of most DBASE, FOXPRO, ACCESS, BTRIEVE files WITHOUT "importing".
- UNIQUE database management system with moveable columns. Even SPLIT columns into doubles or triples for easy viewing of ALL important data on one screen
- Exclusive 'SLIDE RULE' tuner. Click or 'skate' your mouse over our Slide-Tuner to change frequencies effortlessly! OR use our graphical tuning knob.

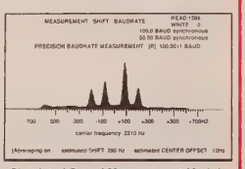
*$5 U.S. $7.50 FOREIGN

HOKA CODE-3 USA Version

"The Standard Against Which All Future Decoders Will Be Compared"

Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amtor you'll know - but what about the many other signals?

There are some well known CW/RTTY Decoders but then there is CODE-3. It's up to you to make the choice, but it will be easy once you see CODE-3. CODE-3 has an exclusive auto-classification module that tells YOU what you're listening to AND automatically sets you up to start decoding. No other decoder can do this on ALL the modes listed below - and most more expensive decoders have no means of identifying ANY received signals! Why spend more money for other decoders with FEWER features? CODE-3 works on any IBM-compatible computer with MS-DOS with at least 640kb of RAM, and a CGA monitor. CODE-3 includes software, a complete audio to digital FSK converter with built-in 115V ac power supply, and a RS-232 cable, ready to use.



Simulated Speed Measurement Module

CODE-3 is the most sophisticated decoder available for ANY amount of money.

26 Modes included in STANDARD package include:

- Morse ★
- RTTY/Baudot/ Murray ★
- Sitor CCIR 625/476-4 ARQ - Navtex ★
- AX25 Packet ★
- Facsimile all RPM (up to 16 gray shades at 1024 x 768 pixels ★
- Autospec - Mk's I & II
- DUP-ARQ Artrac
- Twinplex
- ASCII ★
- ARQ6-90/98
- SI-ARQ/ARQ-S
- SWED-ARQ-ARQ-SWE
- ARQ-E/ARQ1000 Duplex
- ARQ-N-ARQ1000 Duplex Variant
- ARQ-E3-CCIR519 Variant
- POL-ARQ 100 Baud Duplex ARQ
- TDM242/ARQ-M2/4-242
- TDM342/ARQ-M2/4
- FEC-A FEC100A/FEC101
- FEC-S • FEC1000 Simplex
- Sports info 300 baud ASCII
- Hellschreiber-Synch/Asynch ★
- Sitor • RAW (Normal Sitor but without Synch.
- ARQ6-70
- Baudot F788N
- Pactor ★
- WEFAX ★

EXTRA OPTIONS

	REG. PRICE
Piccolo	$85.00
Coquelet	$85.00
4 special ARQ & FEC systems: TORG-10/11, ROU-FEC/ RUM-FEC, HC-ARQ (ICRC) and HNG-FEC	$115.00
SYNOP decoder	$85.00

- All modes in typical baud rates with possibility of changing to any desired value of speed and shift.
- User can save incoming data to disk in either ASCII or raw bit form.

PROFESSIONAL CODE-3 DECODER
$595.00 + S & H
Includes: ALL Modes, Plus Oscilloscope★, ASCII Storage, Auto Classify★, and PACTOR★ Options
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The Listening Post

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

Radio Ukraine International Gasping For Air!

Another broadcaster in the former USSR is reported to be suffering a big-time hurt. The word is that Radio Ukraine International can no longer afford to operate a half dozen of its highest power shortwave transmitters and has had to discontinue their use. The station's shortwave service is now down to a bare bones operation. Apparently, the only frequencies still in operation are **5905 (see logs), 6020, and 6090.** A number of transmissions have also been cut back or canceled.

Meantime, another ex-USSR station, Radio Vilnius, Lithuania, reports the addition of a new 100 KW shortwave transmitter to its facility at Sitkunai, using 9710. Other frequencies will be put into use as time goes on.

Israel's armed forces station, Galei Zahal, has made one of its extremely rare appearances on shortwave. It may be gone by the time you read this but, just in case, check 6442 upper sideband during our local evenings. This station sometimes shows up on shortwave, relaying its local programs when Israeli forces are involved somewhere overseas. Galei Zahal confirms reports with a QSL card. Write Galei Zahal, Zahal, Military Mail No. 01005, Israel.

A new religious station in Bolivia is Radio Mosoj Chaski, at Cochabamba, running a respectable 10 kW on 3310. It's scheduled in Quechua from 0900 to 1200 and 2200 to 0100.

"Don't give up the ship!" "Hang in there!" "Never say never." Here's proof those old-fashioned sayings still have some merit. Cuba and China have signed an agreement which will modernize Radio Havana Cuba's transmitting facility. For some years now, RHC has hung on through parts shortages and various other difficulties and managed, most of the time, to continue putting out a decent signal. (At the same time, however, Cuba still managed to keep several jammer transmitters going.)

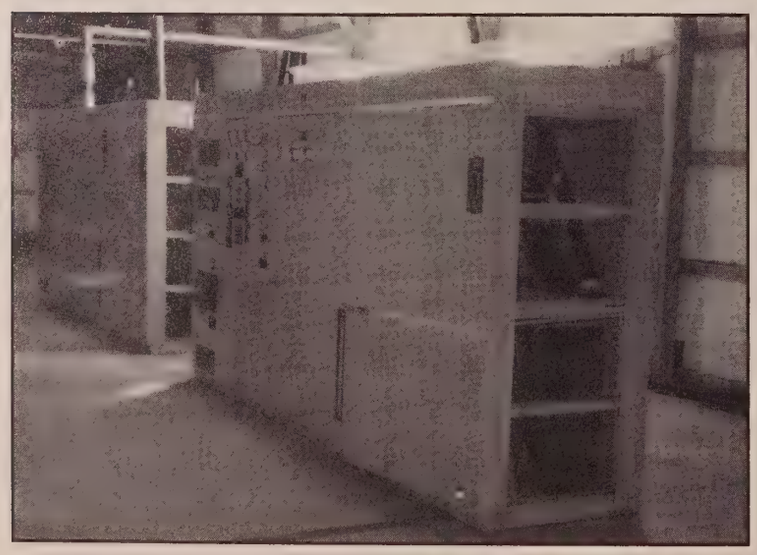
We've had a nice letter and a couple of photos from Larry Baysinger, Director of Engineering for WJCR in Upton, Kentucky. Larry tells us that the station, owned by World Wide Gospel Radio and located about 65 miles south of Louisville, has received reception reports from about 150 countries during its seven years on the air.

There are problems with the "aged and obsolete" transmitters which are becoming" very difficult and expensive to maintain" so, after a lot of searching and negotiating, WJCR now owns two 20-year-old Continental transmitters, which were formerly used at the now-closed Voice of America station in Bethany, Ohio. Although they are over two decades old, Baysinger says the transmitters are easy to service and replacement parts are readily available. The first of the two units may be on the air by the time you read this month's column.

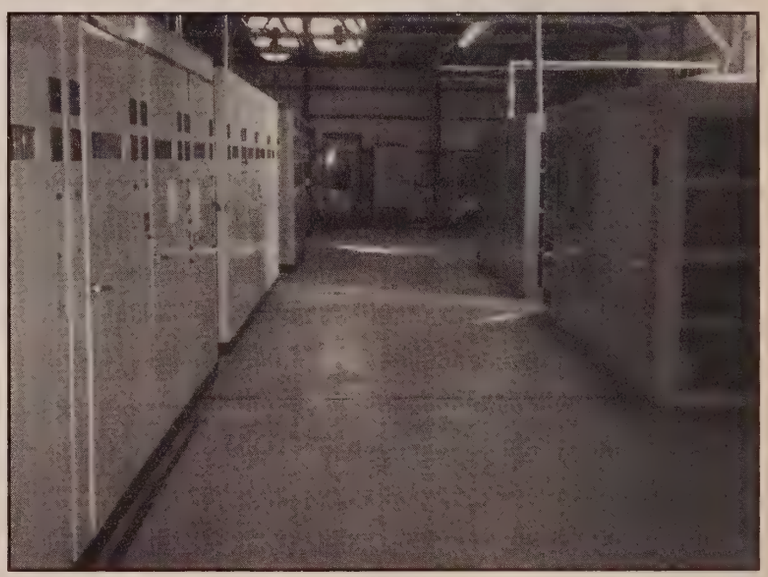
WJCR operates "continuously" on **7490 and 12595** with 50 kW into Rhombic antennas beamed at 55 and 155 degrees respectively. Thanks for the inside info, Larry. We invite, and always welcome, information from any shortwave broadcaster.

WJCR sends a QSL card in response to reports. You can write them at P.O. Box 91, Upton, Kentucky 42784.

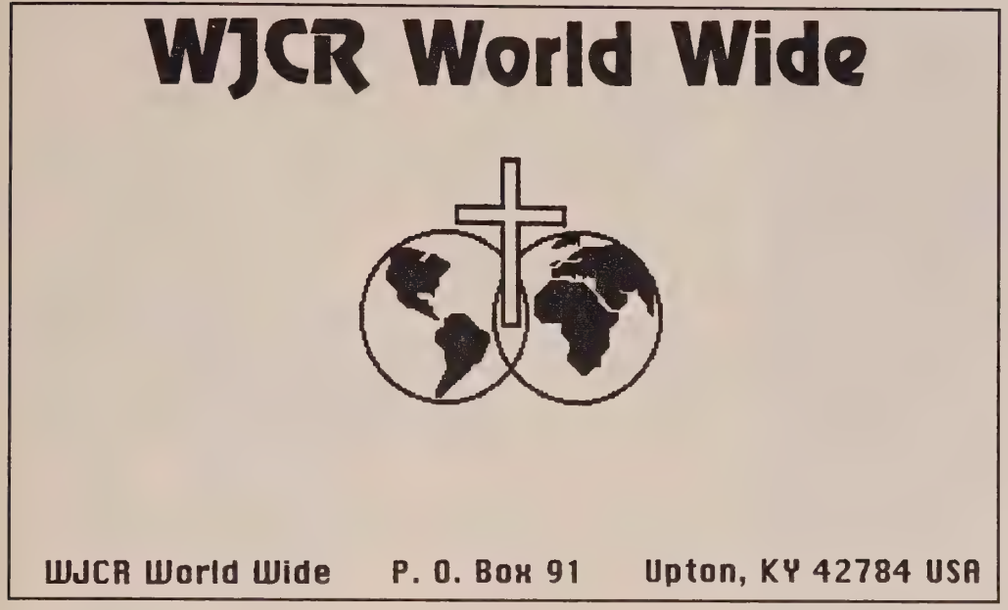
This month's shortwave book winner is Brian Alexander of Mechanicsburg, Pennsylvania. Brian's logs are outstanding in their detail and DX quality. Brian will receive a copy of Harry Helms' *Shortwave Listening Guidebook*. Universal Radio has a huge catalog offering a zillion or so receivers, antennas, accessories, books, and other neat stuff. You can get a copy by writing Universal at 6830 Americana Parkway, Reynoldsburg, OH



WJCR's recently acquired Continental 617A shortwave transmitter, which was formerly in use at the now-closed VOA Bethany (Ohio) relay station. "Bethany 9" is in the background; "Bethany 10" in the foreground. (Thanks to Larry Baysinger)



WJCR's shortwave transmitter room. Transmitters on the left are the two Armstrong-modified RCAs (which, by now, may be out of service) and the ex-VOA Continental's on the right. (Thanks to Larry Baysinger)



WJCR sends this card in response to correct reports.

Abbreviations Used in Listening Post

AA	Arabic
BC	Broadcasting
CC	Chinese
EE	English
FF	French
GG	German
ID	Identification
IS	Interval Signal
JJ	Japanese
mx	Music
NA	North America
nx	News
OM	Male
pgm	Program
PP	Portuguese
RR	Russian
rx	Religion/ious
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies
w/	With
WX	Weather
YL	Female
//	Parallel Frequencies

43068, or calling them at 614-866-4267. You can E-mail them at <dx@universal-radio.com>.

Remember, your reception logs are always welcome. Just be sure to list items by country, double-space (at a minimum) between each one and add your last name and state abbreviation after each item. Other things we can put to good use are spare QSL cards you don't need returned, station photos, and other materials, including schedules. And how about a photograph of you at your listening post? We'll be glad to do our bit to help make you a DX star! As always, thanks so much for your continued interest and cooperation!

Here are this month's logs. All times are in UTC, which is five hours ahead of EST, i.e.0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST and 4 p.m. PST. Double capital letters are language abbreviations (FF = French, AA = Arabic, SS = Spanish, etc.). If no language abbreviation is included, the broadcast is assumed to have been in English.

ALASKA— KNLS, **9615** at 1322 with pops, "Eye on Business," and sports, ID at 1336, Psalms reading and off at 1400. (Zamora, TX)

ANTARCTICA — LRA-36, Radio Nacional Arcangel San Gabriel, **15475.75** from 2335 to 0104 close with special extended Saturday broadcast for the U.S. SS/EE ID, SS pops. Also EE announcement at 0101 and request for reports. (Alexander, PA) (*Apparently, they are doing these extended broadcasts once a month, so North Americans have a better chance of hearing them — Ed.*) **15476** with clear ID "Radio Arcangel de Argentina" at 1230, then SS to fade at 1255. (Brossell, WI)

ALBANIA — Radio Tirana, **6115** at 0145 with ID, time/frequency info, and news. (Jeffery, NY) **7109.95** at 0659 with multiple IS, IDs by man and woman at 0700 and into Albanian. (Quaglieri, NY)

ANGOLA — Radio Nacional, **4950** at 0210 to past 0310. PP talks, canned announcements, and variety of PP and Afro pops. **// 11954.77**. (Alexander, PA) **11955** in PP at 2030. (Linonis, PA)

ANTIGUA — BBC relay, **5975** at 0001, 0100, 0300, 0500, 2155, and 2300. (Jeffery, NY)

ASCENSION ISLAND — BBC to Africa, **15400** at 2000 and **17830** at 1957. (Jeffery, NY)

AUSTRALIA — Radio Australia, **6020** in Pidgin monitored at 0931; co-channel QRM from Radio Victoria, Peru in SS. (Miller, WA) **17715** at 2254. (Jeffery, NY) **17750** at 0431 with news. (Foss, AK)

AUSTRIA— Radio Austria Int'l, **9870** at 0006 in GG. (Gardner, MS) **13730** at 0333 in SS. (Paszkiewicz, WI) 0416 with classical music. (Foss, AK)

AZERBAIJAN — Radio Dada Gorgud, **9165** at 0230 in presumed Azerbaijani to 0259 sign-off. Mention of "Baki." Very poor modulation. (Brossell, WI)

BELGIUM — Radio Vlaanderen Int'l, **13735** monitored at 1230 in GG, then maybe FF ID. (Northrup, MO)

BRAZIL — Radio Nacional, **15265** in GG at 2006. (Jeffery, NY) Radio Cultura, **17814.92** from 0215 tune, in PP. Irregular with Brazilian ballads, PP remakes of U.S. oldies. Off with National Anthem at 0302. **//9615** which was weak with a lot of splatter. (Alexander, PA)

BULGARIA — Radio Bulgaria, **9485** at 0300 with IS, news. (Butler, MO)

CANADA — Radio Korea Int'l via Canada, **9650** at 1129 with IS, ID, time/frequency info, news. (Jeffery, NY) Radio Japan relay, **5960** in JJ at 0352 with music, then news at 0355. (Jeffery, NY) Merlin Network One, United Kingdom (*via Canada? — Ed.*) **9795** monitored at 0327 with rock and **9850** at 0155 with music program. (Paszkiewicz, WI) CBC Northern Service, **9625** at 0325 with jazz program. (Paszkiewicz, WI) CKZU, **6160** at 0941 with relay of CBU Vancouver. (Miller, WA)

CHILE —Voz Cristiana, **17860** at 2222 in SS with music, ID. (Jeffery, NY)

CHINA — Radio China Int'l, **11675** at 1220 with current affairs, international business. Off at 1257. (Zamora, TX)

COLOMBIA — Carocal Colombia, **5081** at 1006 in SS. (Ziegner, MA) Colmundo Bogota, **6064** with sports in SS at 0934. (Miller, WA)

COSTA RICA — Adventist World Radio, **5030.09** at 0030 with light instrumentals, religious music, ID, SS announcements. Gone at 0230 recheck. No parallels heard. Lately, they have been operating sporadically. (Alexander, PA) Faro del Caribe, **5055** in SS at 1130 with SS music and frequent IDs. (Linonis, PA)

CONGO REPUBLIC — RTV Congolaise (tentative) **9609.98** at 0722 with hyper male DJ in FF and uptempo African music. QRM from a military transmitter around 0730. (Quaglieri, NY)

CROATIA — (tentative) Croatian Radio, **9925**, via Germany, at 0211. (Gardner, MS) 0414 with guitar instrumental. Man in presumed Croat. (Foss, AK)

CUBA — Radio Havana Cuba, **6000** at 0430. Much stronger on **9820**. (Butler, MO) 9820 at 0021 in SS. (Gardner, MS) 0345 with DX program. (Jeffery, NY)

CZECH REPUBLIC — Radio Prague, **7345** at 0030 with news and comment in SS. (Linonis, PA)

ECUADOR — Radio Quito, **4920** at 1000 in SS. (Ziegner, MA) HCJB — **5865** at 0018 with South American music, mention of Quito in unidentified language. Also **15115** at 1857 with IS, ID, news, "Mission Network News," "DX Party Line." (Jeffery, NY) **6050** at 1024 in SS. Also 2130 in probable Quechua. (Ziegner, MA) New **11950** at 0710. (Alexander, PA) 15115 at 1215 with ID, music. (Northrup, MO)

EGYPT — Radio Cairo, **9475** at 0229 with Egyptian music. (Foss, AK) **9755** at 0400 in

Larry Zamora, of Texas, got this very attractive, full-color QSL from YLE, Radio Finland.

UTC	DAYS	TARGET	kHz	mb	Via	DIR.
0400	DAILY	N. AMERICA	15565	19	Bonaire	320°
0700	DAILY	EUROPE	9925	31	Waver	32°
		EUROPE (E)	15195	19	Waver	84°
1130	DAILY	EUROPE	5985	49	Waver	163°
1730	DAILY	EUROPE	9925	49	Waver	163°
		EUROPE (N)	5910	49	Waver	32°
		EUROPE (SE) & MIDDLE-EAST	13685	21	Jülich	115°
		AFRICA (S)	11840	25	Madag.	245°
1930	DAILY	EUROPE	5960	49	Jülich	OMNI
		EUROPE	1512	198		OMNI
2230	DAILY	N. AMERICA	15565	19	Bonaire	350°

	Time (UTC)		
	0700-1130	1730-1930	2230-0400
Monday	News Belgium Today Press Review The Arts Tourism	News Belgium Today Press Review Focus on Europe Sports	News Belgium Today Press Review Focus on Europe Sports Soundbox
Tuesday	News Belgium Today Press Review Focus on Europe Sports	News Belgium Today Press Review Green Society Soundbox	News Belgium Today Press Review Green Society Soundbox
Wednesday	News Belgium Today Press Review Green Society Soundbox	News Belgium Today Press Review The Arts Around Town	News Belgium Today Press Review The Arts Around Town Soundbox
Thursday	News Belgium Today Press Review The Arts Around Town	News Belgium Today Press Review Economics International Report	News Belgium Today Press Review Economics International Report Soundbox
Friday	News Belgium Today Press Review Economics International Report	News Belgium Today Press Review The Arts Tourism	News Belgium Today Press Review The Arts Tourism Soundbox
Saturday	Music from Flanders		
Sunday	Radio World Tourism Brussels 1043 Soundbox		

Here's the current program and schedule guide from Radio Vlaanderen International in Belgium.

AA. Mentions of Alexandria and Aiza. Muffled modulation. (Linonis, PA) **9900** at 0200 in AA. Poor modulation. (Brossell, WI)

ENGLAND — Merlin Network One, **11985** with rock at 0027. (Gardner, MS) Radio Canada Int'l via England, **9645** at 1423. (Miller, WA) BBC, **6175** at 0150. (Linonis, PA) (*This is via Canada at this hour — Ed.)* **9740** via Singapore with sports coverage, also **11765** at 1650 (Miller, WA) HCJB via Rampisham, **11780** in RR at 1800–1830 (new time) then into Ukrainian, Georgian, or Tartar, depending on the day. Wednesdays, Fridays, and Saturdays programming in this slot is produced by "Teos," a mediumwave station in Moscow/St. Petersburg. (Kolesov, Ukraine)

EQUATORIAL GUINEA — Radio Africa, **15185** monitored at 1919 with religious programs. (Jeffery, NY)

FINLAND — YLE Radio Finland's English to North America is broadcast from 1230 to 1300 on **15400** and **17670**. Reception reports go to Digita SW Base, Makholmantie 79, 28660, Pori. (Zamora, TX)

FRENCH GUIANA — Radio France Int'l relay, **17560** at 1405 with international and domestic news, sports,. (Zamora, TX)

GERMANY — Deutsche Welle, **9530** to close at 0350. (Butler, MO) **11785** via Rwanda in GG at 0024. (Gardner, MS) 0400 with EE. **//7225, 9565**. (Alexander, PA) **13720** at 0140 with sports. (Paszkiewicz, WI)

GREECE — Voice of Greece, **7450** at 0200 in Greek to North America. (Linonis, PA) **9420** at 0343 in Greek. (Miller, WA)

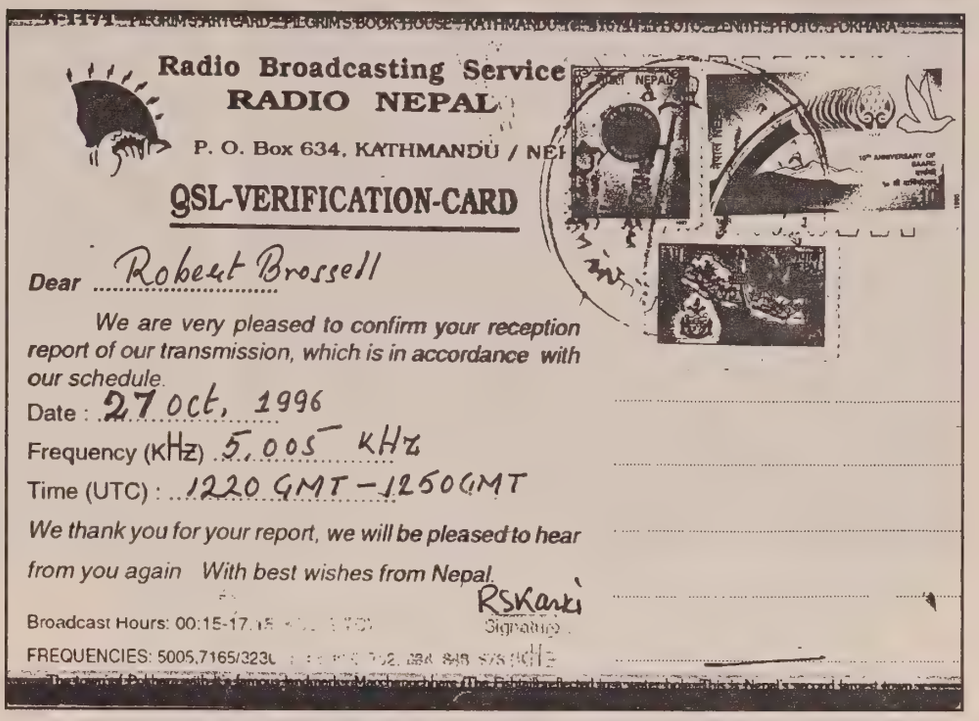
GUATEMALA — Radio Buenas Nuevas, San Sebastian, **4800** at 1129 in SS. (Miller, WA)

HAWAII — KWHR, **9930** at 1155 with religious program, ID 1159, and into U.S. government's Radio Free Asia programming at 1200. (Zamora, TX) 17510 with news at 0300. (Butler, MO)

HONDURAS — Radio Mi, **5890** monitored at 0320 in SS with music and woman announcer. (Jeffery, NY)

HUNGARY — Radio Budapest, **9840** at 0227 with EE and IS. (Butler,

It pays to persist! Robert Brossell, Wisconsin, got a reply out of Radio Tanzania after four years, eleven follow-ups, and a FAX!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Dear Robert Brossell
We are very pleased to confirm your reception report of our transmission, which is in accordance with our schedule.
Date : 27 oct, 1996
Frequency (KHz) 5.005 KHz
Time (UTC) : 1220 GMT - 1250 GMT
We thank you for your report, we will be pleased to hear from you again With best wishes from Nepal.
RSKanti
Signature
Broadcast Hours: 00:15-17.15
FREQUENCIES: 5005,7165/3230

Another rare QSL from the Brossell collection is this neat card from Radio Nepal.

MO) **13685** with interview in HH at 1230. (Northrup, MO)

INDIA — All India Radio, **11620** at 0030 with news and music. (Linonis, PA) **9700** from Aligarh at 1428 with Hindi music. (Miller, WA) **11585** from Aligarh at 1024 in presumed EE (too weak to tell for sure) with music, woman announcer. Also **15200** (unknown location) at 1911 with news magazine. (Jeffery, NY)

INDONESIA — Radio Republik Indonesia, Sumanep, Java, **3345** monitored at 1340 with music. (Miller, PA) RRI Ujung Pandang, Sulawesi, **4752** monitored at 1348 with Thai music. (Miller, WA) **11785** Voice of Indonesia, Jakarta in FF with EE announcement. **//9525, 15150**. (Miller, WA)

IRAN — VOIRI, **15200** at 1230 with AA music. (Northrup, MO)

IRAQ — Radio Iraq Int'l, **11785** at 1430 in AA. Some fades but good "Huna Baghdad" ID. (Linonis, PA)

ISRAEL — Kol Israel, **15640** monitored at 0204 in Hebrew, middle of the road music. (Paszkiewicz, WI) **17545** at 1645 in HH with news, interview, comment. (Linonis, PA)

ITALY — RAI, **11765** in II from 0200. (Linonis, PA) **11905** at 2303 in II. (Miller, WA)

JAPAN — Radio Tampa, **6115** at 0850 in JJ. (Foss, AK) Radio Japan/NHK, **11705** via Canada, 0031 with discussion. (Gardner, MS) **17825** with news at 0315. (Gardner, MS)

JORDAN — Radio Jordan, **11935** in AA at 0025. (Gardner, MS)

KUWAIT — Radio Kuwait, **11675** at 0200 in AA, all singing and talk. (Brossell, WI) **11990** at 1830 with sports, weather, and western-style pop. (Linonis, PA) **15505** at 2231 with Mideast music. (Jeffery, NY)

LIBYA — Voice of Africa service (Radio Jamahiriya), **15415** at 2030 in AA with EE IDs. (Linonis, PA)

LITHUANIA — Radio Vilnius, **9855** (via Germany) at 0030 to North America. Famous U.S.-Lithuanians, including Charles Bronson and Johnny Unitas. (Linonis, PA)

MALI — RTV Malienne, **4784.4** at 0720 in FF with local music, **//4835**. (Alexander, PA)

MALAYSIA — Radio Malaysia, Kajang, **4845** at 1351 in unidentified language. (Miller, WA) (*Listed for Tamil — Ed.*) Radio Malaysia, Sarawak, **4895** at 1400. News in unidentified language. (Miller, WA)

MEXICO — Radio Mexico Int'l, **9705** at 0350 in SS. (Miller, WA) Radio Mil, **6010** in SS at 0925 with romantic music. (Miller, WA) Radio Educacion, **6185** at 0042 with music and SS ID. (Jeffery, NY) 0544 in SS. (Foss, AK) 0745 in SS. (Ziegner, MA)

MONGOLIA — Voice of Mongolia, **9720** with Chinese music at 1429. (Miller, WA)

MOROCCO — RTV Marocaine, **11920** at 0200 in AA with mention of Rabat. (Brossell, WI) Radio Medi-Un, **9575** at 0145 with live AA vocals. (Paszkiewicz, WI)

NETHERLANDS — Radio Netherlands, **9895** in SS at 0007. (Gardner, MS)

NETHERLANDS ANTILLES — Radio Netherlands via Bonaire, **9845** at 0001. (Gardner, MS) **15315** at 1947. (Jeffery, NY)

NEW ZEALAND — Radio New Zealand, **9700** with religious discussion at 1025. (Miller, WA) 1100 with news. (Ziegner, MA) **17675** at 0012, 0254, 0353, and 0531. (Jeffery, NY) News at 0437. (Foss, AK)

NIGERIA — Voice of Nigeria, **7255** at 0516 with "African Safari." **15120** at 1841 in FF. Into EE ID and program preview at 1900. (Jeffery, NY) (*As the time this column was being put together, 15120 was off the air, awaiting a new transmitter part — Ed.*)

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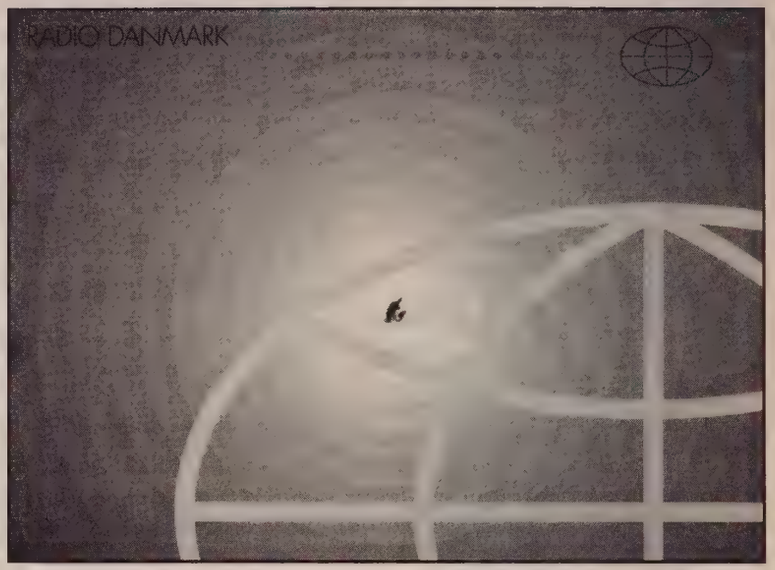
A 1998 QSL from Radio Sweden. Do you think he's a regular listener?



One of the stylish QSLs issued by Radio Denmark.

NORTHERN MARIANAS — KFBS — Far East Broadcasting Service, Saipan, **9495** at 1418 in CC. (Miller, WA)
NORTH KOREA — Radio Pyongyang, **11335** at 1148 in EE with news. Barely audible. (Jeffery, NY)
NORWAY — Radio Norway, **11635** at 0327. (Paszkiewicz, WI)
PAKISTAN — (tentative) Radio Pakistan, **11570** at 1900 in possible Urdu or Bengali. Weak and fading but mentions of Islamabad. (Linonis, PA)
PAPUA NEW GUINEA — NBC, Port Morseby, **4890** at 1359. (Miller, WA)
PARAGUAY — Radio Nacional, **9735** in SS at 0100 with "futbol." (Linonis, PA) 0100 with music and ID. (Ziegner, MA)
PERU — Radio Ignacio, tentative, **5682** at 1019 in SS. (Ziegner, MA) La Voz de las Huaringas, tentative, **6987.07** at 0200 to 0247 sign-off. Peruvian folk music, SS announcements (some with echo), mentions of Huancabamba. Off from nominal 7003? (Alexander, PA)
PHILIPPINES — FEBC Radio Int'l, **9405** at 1416 in CC. Religious music. (Miller, WA) **11635** at 0946 with ID, religious program. (Jeffery, NY) Radio Veritas Asia, **9660** at 1427 with religious programming in RR. (Miller, WA) Voice of America relay, **11860** at 0914 with EE lesson. (Foss, AK) **15180** at 1914. Faded by 1918. (Jeffery, NY)
ROMANIA — Radio Romania Int'l, **15365** at 1700 with talk on Kosovo. (Linonis, PA)
RUSSIA — Voice of Russia, 7120 at 0400 with news.7250 at 0300. (Butler, MO) **15520** at 0241. (Hill, ID) Khabarovsk Radio, **7120** at 0940 in RR. (Miller, WA) China Radio Int'l, Irkutsk relay, **11835** in RR at 1600 to 1800. (Kolesov, Ukraine) Radio Netherlands relay, **7260** at 0941. (Jeffery, NY)
RWANDA — Radio Rwanda, **6053** at 1031 in probable Swahili. Very clear ID. (Ziegner, MA) Deutsche Welle relay, **17860** at 1912 in GG with news magazine. (Jeffery, NY)
SAUDI ARABIA — BSKSA, **9739.9** at 0303, Holy Quran service, **//11935,** but not to 9578.72. (Alexander, PA)
SEYCHELLES — BBC relay, **11865** at 0245 in unidentified language. (Brossell, WI)
SINGAPORE — Radio Singapore, Kranji, **7245** at 1411 in unidentified language. (Miller, WA) BBC relay, **9740** at 1139. (Jeffery, NY)
SLOVAKIA — Radio Slovakia Int'l, **7300** at 0100 sign-on. News, "Slovakia Today," weather, Y2K problem, business news. Off 0127. (Zamora, TX)
SOUTH AFRICA — Channel Africa, **9525** in FF at 030 with news about Africa and African/Western pops. (Linonis, PA)
SOUTH KOREA — Radio Korea Int'l, **7275** at 0951 in KK. (Miller, WA) Radio Canada Int'l via Korea, **13710** at 2200 in RR. (Kolesov, Ukraine)
SPAIN — Radio Exterior de Espana, **6055** in EE at 0100. (Linonis, PA) **9540** in SS at 0009. (Gardner, MS) **15170** at 1200 in SS. (Northrup, MO) China Radio Int'l relay, **9690** at 0031. (Jeffery, NY)
SUDAN — SNBC/Radio Omdurman, **9200** at 0251 with IS, national anthem, time pips, and talk in unidentified language at 0300. Koran at 0303. 7200 not heard. (Alexander, PA)
SWEDEN — Radio Sweden, **7115** at 0333 with news, weather for Sweden, features. (Jeffery, NY)
SWITZERLAND — Swiss Radio Int'l, **9885** at 0210 in FF. (Gardner, MS)
TAHITI — Radio Tahiti, tentative, **15170** at 0600 in FF and TT with Polynesian music and woman announcer. (Linonis, PA)
TAIWAN — Radio Taipei Int'l, **9610** at 1223 with "Taiwan Today." (Zamora, TX)
TURKEY — Voice of Turkey, **9445** in TT at 2046. (Miller, WA) 2100 in TT with Sufi music. (Ziegner, MA)
UKRAINE — Radio Ukraine Int'l, **5905** at 0000–0100 with news, comment, local music, ID. (Alexander, PA)
UNITED ARAB EMIRATES — UAE Radio Dubai, **13675** at 0333 and **15400** at 0337 with usual vacuum-like background noise. (Paszkiewicz, WI) (*Cleaning the studio? — Ed.*) **13675** at 0330 with ID, frequencies, news, Dubai weather. (Jeffery, NY)
UNITED STATES — AFRTS, **4278.5 USB** (from Florida) with programming from Public Radio International. (Brossell, WI)
UZBEKISTAN — Radio Tashkent, **9715** at 1239 in probable Urdu with traditional Uzbek music. (Ziegner, MA)
VENEZUELA — Ecos del Torbes, **4980** in SS at 1001. (Ziegner, MA)
VIETNAM — Voice of Vietnam, **7250** (via Russia) at 0100.(Ziegner, MA) 0250 with "Shortwave Letterbox." (Butler, MO) **9730** with news in VV at 1434. **//9840.** (Miller, WA)
YUGOSLAVIA — Radio Yugoslavia, **9580** at 0100 with news and comment. Also at 0530. (Alexander, PA) (*Radio Yugoslavia was knocked off the air as a result of one of the NATO bombing runs. Keep checking for it, though. They may, like the national TV, find a way to come back — Ed.*)

Time now for the closing ceremonies, in which we praise and thank those who did the good thing this month: Dave Jeffery, Niagara Falls, New York; Al Quaglieri, Albany, New York; Michael Miller, Issaquah, Washington; Sheryl Paszkiewicz, Manitowoc, Wisconsin; Sergey Kolesov, Kiev, Ukraine; Jason R. Gardner, Sebastopol, Mississippi; Jack Linonis, West Middlesex, Pennsylvania; Mark Northrup, Gladstone, Missouri: Tim Hill, Mountain Home, Idaho; Marty Foss, Talkeetna, Alaska; Larry R. Zamora, Garland, Texas; Robert Brossell, Pewaukee, Wisconsin; Tricia Ziegner, Westfield, Massachusetts; Brian Alexander, Mechanicsburg, Pennsylvania, and Paul W. Butler, Liberty, Missouri. Thanks to each of you!

Until next month, good listening! ■

Product Spotlight

BY KEN REISS
<Armadillo1@aol.com>

POP'COMM REVIEWS PRODUCTS OF INTEREST

Optoelectronic's OptoCom

Those clever Optoelectronics folks in south Florida have done it again. They've released yet another "Gee, you gotta have one of these" gadgets, namely the OptoCom receiver. Outwardly, it's a bit unusual, and looks pretty much like another black computer box with a couple of knobs and some lights on the front. It's more of a "That looks neat, what is it?" reaction than a "Wow, what a cool scanner" effect. But under the hood, there's a fully-functional scanner with complete computer-control. After you've had a look at the features, you'll be saying "Wow, what a cool scanner!"

Not many controls here! Typical of computer-controlled receivers, there's not much to see. However, the few controls and indicators that are here are invaluable. The data light indicates information being received from the computer and the signal light indicates squelch break, even if the software doesn't recognize the signal because of tone squelch or other settings. Great diagnostic tools!

Inside the box is a full-featured GRE scanner. Most North Americans probably don't know the GRE name, but I'd bet there's a fair chance you own one of their previous products if you've been scanning any length of time. GRE is General Research Electronics, which manufactured a lot of the RadioShack scanner line, particularly prior to 1996 when Uniden began making a number of them. The PRO-2004, 2005, and 2006 series are GRE, as are the 2035 and 2042. In fact, I'm told that the receiver portion of the OptoCom is really a 2035/2042 receiver board. (For those who may not know, the 2035 and 2042 used the same receiver portion, but the upgraded 2042 had a different control unit to offer its advanced features.) The OptoCom has its own computer interface, similar to, but not exactly like, the OptoScan 535 unit designed for the 2035 and 2042.

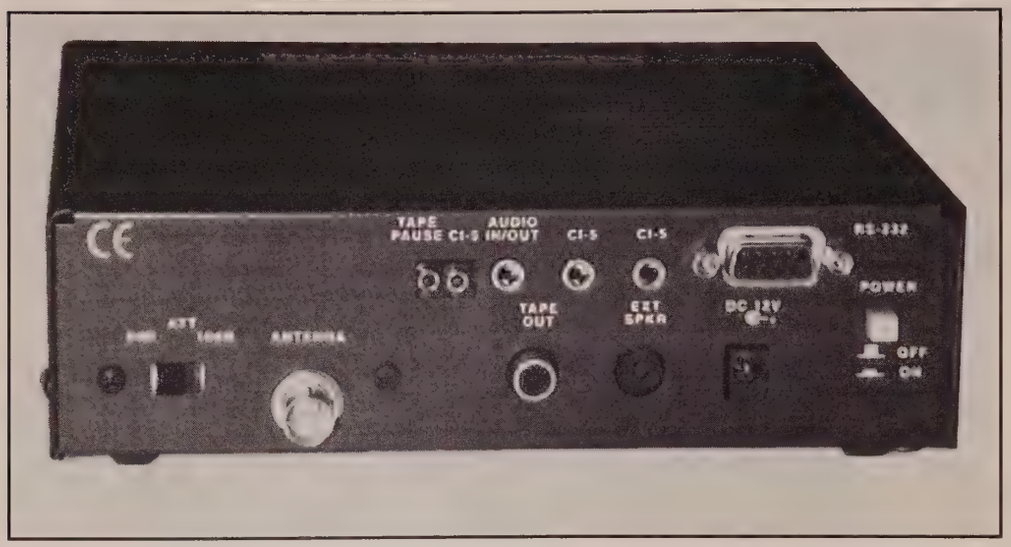
Its features are impressive for any scanner. Coverage includes all of the interesting land-mobile service frequencies from 25 to 1300 MHz. Actually, coverage is complete, except for the UHF TV range from 520–760 MHz and, of course, cellular. It has 100 channels (no that's not a typo, we'll get back to it in a minute), a 10 dB attenuator (not computer-controllable, unfortunately), built in CI-V and RS-232 connections, and complete tape recorder control facilities. The audio is clear and loud enough for most settings, although an external amplifier might be useful in an extremely noisy environment. The unit also includes a tone reader (accessible under computer-control) and a data slicer for reading all kinds of data and information that is transmitted via radio. The data slicer requires software for whatever mode you might be trying to listen to, but it does make the information available without modification to the radio, which is an OptoCom first.

One hundred channels — did he really say 100 channels? Yes I did. You see, really, the OptoCom is meant to be computer-controlled and there will be virtually no limit on channels, except what your software will allow. However, Optoelectronics recognized that there might be times when the radio and computer might not be together, and so they made the unit functional, unlike many of the other black box units we've seen. You can download up to 100 of your favorite, listen-to-'em-all-the-time, gotta-have-frequencies, plus the OptoCom will operate as a stand-alone unit. The only two unfortunate side effects of this are that you can't tell for sure what frequency you're on when it's talking, and you can't lock something out if it's causing a problem. Make sure you really like those 100 frequencies a lot. Of course, at the drop of a hat, you can re-download them, but you'll have to wait until you're connected to the computer again.

You don't have to fill up all 100 either. I have loaded mine with about 20 or so very local things that I can tell just by the dispatcher's voice who the agency is. When I'm not using the OptoCom in computer-control, those few frequencies will keep me in tune with what's happening in the neighborhood. Pretty cool for a black box radio.

Computer-Control — The OptoCom Shines!

Computer-control is where the OptoCom really begins to shine. In the simplest form, the Scout, Super Scout, and Mini Scout (all frequency counters with special scanner user features from Optoelectronics) can "reaction-tune" the OptoCom. These devices all lock on to



Lots of connections here. Note the 10-dB attenuator at the left and both conventional computer connections and CI-5. This may provide for lots of expansion in the future.

the closest signal (strongest transmitter within receiving range of the counter, not the scanner) and tune the OptoCom's receiver to that frequency so you can hear the audio. Note that the OptoCom, since it's a radio receiver as opposed to a frequency counter, has a much longer range than any of the tuning devices. Once an interesting frequency is found, you can hear it for a considerable distance using this combination, as opposed to devices like the Xplorer, which is both a counter and decodes the audio if it's within range. The range of these near-field devices is much shorter than a scanner or communications receiver.

Most of us, most of the time, are going to want to use the OptoCom as a computer-controlled receiver. In fact, if you were a bit late getting into the computer-controlled radio environment and missed the opportunity with the PRO-2006 and Optoscan 456, or PRO-2042 and Optoscan 535, the OptoCom is perfect for you. Not only do you not have to locate the radio on the used market, since it is discontinued, and then install the unit, but the OptoCom gives you advanced features over these units and comes complete and ready to hook up.

There are two computer-control modes of operation on the OptoCom. The first is the normal OptoCom mode, which is used by most of the new software to take full advantage of all the features the OptoCom has to offer. However, if you have older software for the Optoscan units, you can use it with your OptoCom in the OS-535 emulation mode. Most programs that I have tried which supported the OS-535 are working just fine on the OptoCom. There is a program that comes with the OptoCom, called Optocom.exe, which you can use to control a few features of the OptoCom receiver, including putting it into emulation mode. Once there, you can quit Optocom.exe and launch your favorite Optoscan software. Just tell the software that you have an OS-535 and you're all set.

Trakkstar

Shipped with the OptoCom is a version of Trakkstar, a limited version of the complete ScanStar program. Trakkstar is specifically designed to take advantage of the OptoCom's ability to follow trunking systems. The full versions of Scanstar have been updated to offer this capability as well, so if you own a full version, you'll want the update to have all the features. If not, then Trakkstar will be a good way to get you started. Currently, the Scanstar family, including Trakkstar, is the only software that can take advantage of the trunking capabilities of the OptoCom. No doubt, more will follow shortly.

While it's very tempting to link the OptoCom and Trakkstar together, since they do come as a package, I have chosen not to review Trakkstar here. The OptoCom is much more than any one piece of software, and limitations of one piece of software can be overcome by another. Just look at the wide range of applications already available. We'll do a full review of some of the more popular control applications soon.

Trakkstar follows Motorola type I, II, and IIi systems using a unique approach. There is a handshake signal sent on the in-use voice channels to let the users of the system know that they are in fact tuned to the right frequency for the talkgroup that they are following. This information is referred to as the Low Speed Handshake. Rather than follow the control channel (like the Motorola radios do, and TrunkTracker and TrunkTrac scanning systems), Trakkstar looks at each channel in the system and reads the low-speed data. It then checks to see if this conversation or ID number is one that you're interested in listening to.

Because the software is not following the data channel, the radio is not required to spend its free time listening for commands to jump to a particular frequency. So, it can mix conventional frequencies in with the trunk group. The disadvantage to this method is time. It takes some length of time (about a half-second) to look at a trunked frequency, check the low-speed handshake, and then see if it's one you're interested in. In the worst case, if you're looking for one talkgroup on a 20-channel system that's busy, it can take almost 10 seconds to get through if all the channels are in use. Of course, that's not typical, and most users report being satisfied with the performance given that they are able to mix trunked and conventional channels together.

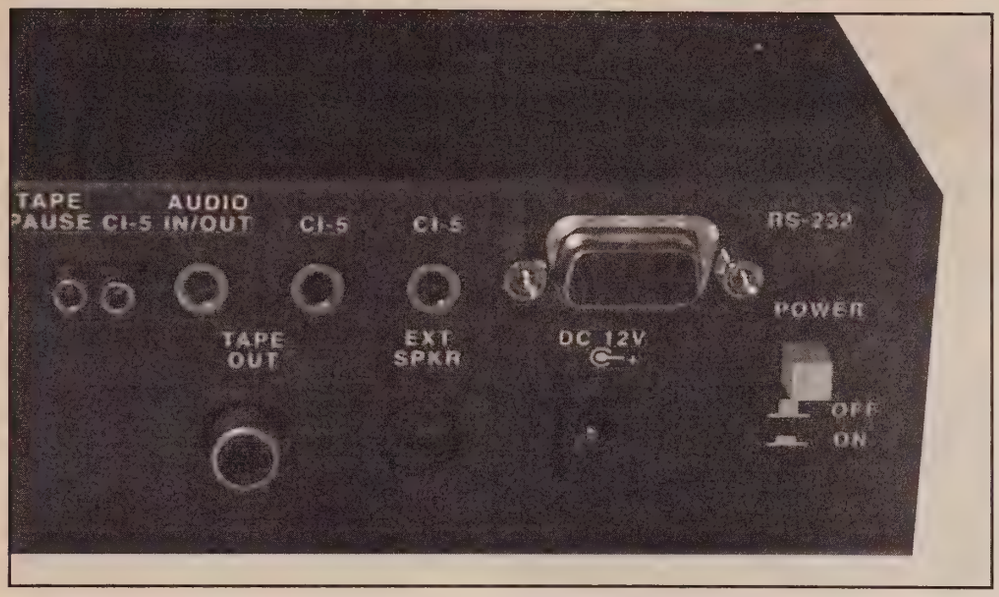
One of the most compelling things about the OptoCom is the flexibility of the whole thing. While Trakkstar has chosen to follow trunking in this unique way, the data slicer is perfectly capable of being used to follow the data channel. Other software may take advantage of this and allow for a more traditional form of following Motorola systems. The EDACS software, mentioned below, already uses the data slicer to follow an EDACS control channel.

I also understand that the OptoCom has been tested with Trunktrac (reviewed Feb. '99 in "ScanTech") and with trunker, a public domain trunk following program. We'll confirm the results soon, but I understand that both systems function well using the OptoCom as a receiver.

EDACS

It's been a long time coming, but we finally have a receiver capable of following Ericson's EDACS communications systems. EDACS is an alternative trunking system used in some areas, instead of the more popular Motorola system, which is followed by the TrunkTracker family of receivers. Up until the OptoCom, EDACS was very elusive and difficult to listen to with a conventional scanner.

ETrack is the software available from dealers, including Lentini and Grove



The DB9 connector hooks straight into a computer serial port. This eliminates the need for any additional interfaces, and the CI-5 jacks can connect to other devices if you wish. Full tape recorder control is also provided.

Enterprises, that will follow an EDACS system. The software is an $89 addition to the cost of the OptoCom if you need EDACS following, but just the fact that it's now possible is a big step forward in scanning. We'll take a closer look at Etrack in an upcoming "ScanTech" column. Stay tuned! This will be an exciting and versatile receiver.

Future Options

Another interesting first with the OptoCom is that the instruction set is contained on a replaceable chip. So, in the future, it will be possible to enhance the functionality of the receiver by simply swapping a chip, rather than more expensive controller boards. Some OptoCom users have already seen this in action. The first units that were shipped did not have the trunk-following software in place. After a few weeks, Optoelectronics sent those users a chip and instructions on how to replace it and return the old one. Simple and easy upgrades. It promises to be a receiver that can grow with you.

There has been some discussion about signal strength readings that were inaccurate on some early units. That problem has also been fixed with a chip change, and all new OptoCom units are equipped with this upgrade. Existing users can contact Optoelectronics for details on an upgrade procedure. Not many scanners offer this flexibility!

There are two socket locations which would allow a third party to develop hardware and plug it into OptoCom for dedicated decoding or other special features. The socket provides power, ground, discriminator, squelch, and CI-5. Anything is possible.

One option is coming soon and should be available by the time you read this. The ComCounter will plug into the OptoCom receiver and provide a reaction tune function so that with a small antenna, the OptoCom could be used to tune a nearby transmitter and check for tone and frequency information. A great tool for hams, no doubt! Stay tuned for more details and a full review of this exciting new option soon!

Have A Look!

This is a receiver that deserves a close look. It takes some thought to just begin to imagine the long-term possibilities available. Also, keep an eye on "ScanTech" for additional information on this receiver and software in the months to come. There are a lot of exciting things to tell you about that we simply didn't have room for here. I won't be sending their review unit back! There's so much that this receiver can do, and computer-controlled scanners are one of my favorites anyway.

The OptoCom is available from many dealers nationwide or directly from Optoelectronics at 954-771-2050. Write them at 5821 NE 14th Avenue, Ft. Lauderdale, FL 33334. If you're online, check out their Website at <http://www.optoelectronics.com>. This is a cool piece of equipment with excellent expansion capabilities. Check it out! ■

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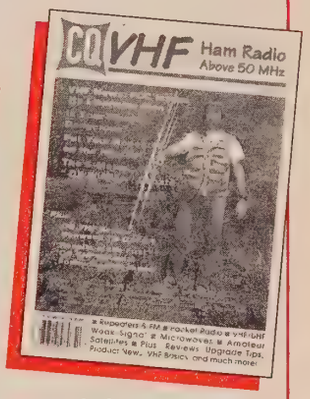

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BY RICHARD "RD" BAKER
<CommConf@concentric.net>

Communications Confidential

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Two New HF Coast Guard Broadcasts From New Orleans

I certainly appreciate my "guest host" filling in last month. My family recently opened a business, and I was way behind helping them with that project — so far behind that there was no catching up. So my humble apologies for any logs I have missed in what will be my last column. The column takes me more than 60 hours a month to research, rough in, and final edit. I can't foresee having that kind of time in the near future. I have enjoyed doing the column, but like John Elway, maybe it's best to go before you are benched! I certainly thank all those who took time to share their logs over the past years.

Other News

Recently, I was invited to speak at the Greater Youngstown (Ohio) Monitoring Association (GYMA). I had a great time talking "radio" with the members. The GYMA is open to anyone interested in any part of the communications hobby; shortwave/utility, scanners, ham, etc. Those in the Mahoning Valley who are interested in learning more about the GYMA can contact Ron Novak, 1717 Lynn-Mar Avenue, Boardman, Ohio 44504 <movak@cboss.com>.

The U.S. Coast Guard recently announced new HF voice weather broadcasts from New Orleans. The U.S. Coast Guard Communications Station in Belle Chase, Louisiana, NMG (CommSta New Orleans), now broadcasts High Seas and Offshore weather forecasts and warnings by HF.

Shortwave frequencies are **4316.0, 8502.0, and 12788.0 kHz**. (1.9 kHz below the FAX frequencies). The times are the same as CAMSLANT Chesapeake, Virginia: 0330, 0500, 0930, 1130, 1600, 1730, 2200, and 2330 UTC. with alternating Offshore Forecasts and High Seas Forecasts.

The Air Force Times reports that Department Of Defense (DOD) air flights engaged in Central/South American counter-narcotic ops can't used Howard AFB anymore, due to its closure at the end of this month. Temporary replacement fields will be Aruba, in Ecuador, but they need major construction to get up to needed standards. The usage agreements with the host nations are temporary, so permanent locations are still being sought.

Members of the Greater Youngstown (Ohio) Monitoring Association at a recent hamfest include, from left to right: Greg Ricken, John Hurni, Jack Matesevac, Ron Novak, and Doug Sage. The club includes utility station fans and anyone interested in the communications hobby.

Reader Mail

Pop'Comm reader Mark Cring, of Columbus, Ohio, checked in for the first time this month. Mark uses an ICOM IC-735 transceiver and an inverted V dipole antenna up 25 feet.

Joel R. Gonzalez, Florida, also checks in for the first time. Joel uses a Kenwood R-1000 with a long wire antenna and an MFJ multi-reader. He has been in the utility listening part of the hobby for about four years.

Alan Gale reports that on the evening of Sunday April 18th, a Royal Australian Air Force F-111 crashed on a small island off Malaysia during a joint exercise. Alan was amazed to hear all the comms appear on **5680.0 kHz** around 1845z (just as the path of darkness was crossing the UK), and managed to log quite a few of the stations during the next four hours. The most amazing catch was RCC Canberra, Australia, calling Kuala Lumpur Rescue, and working a ship with the call "One Kilo Kilo" along with several others, including rescue aircraft 11 and 12. Sadly, the aircrew was lost. This was probably the furthest signal Alan has heard on 5680 so far, and hopefully a sign of things to come. Alan also reports that he has unconfirmed information that the Spaniards closed down on 500 kHz in the beginning of May. If true, it's a real surprise, as they only recently announced a load of frequency changes and new schedules for this band.

John Doe, UK, reports 4XZ has at least three new frequencies in parallel, **9263, 11170, and 16317 kHz**, distinct from the broadcast on 10046 et al, which is still on all its old frequencies. John suspects this is indeed Israeli, but probably not Navy. One code message contained the word "Hizbollo" in quotes in the middle. The usual spelling in English is Hizbollah but "o" is what was sent. Hizbollah is the name of a Lebanese terrorist organization.

Now, on with the show.

UTE Loggings SSB/CW/DIGITAL

518: Oostende Radio, Belgium monitored at 1852 in FEC w/navtex notice re inop radio beacon. (PP/FRA)
2201: VIM, Melbourne Radio, AUS in USB w/wx for Tasmanian coastal waters at 0952. (HOOD/OZ)
2474: PBC, Dutch Naval at 2002 in RTTY 75/850. (PP/FRA)
2493: ZLO, Irirangi Naval w/CW ID at 0929. (HOOD/OZ)
2677: Cross wx bulletin at 1945 in USB, normal parallel on 1650.0 kHz was mute. (PP/FRA)
3412.5: "VR" in CW, with 2 bips at 0422. (LA/ITALY)
4060: UNID, New Zealand vsls in USB w/chat at 1005. (HOOD/OZ)
4211: ZLA Awanui Radio w/ARQ idler at 0738. (HOOD/OZ).
4211.5: KFS Palo Alto Radio w/ARQ idler at 0737. (HOOD/OZ).
4212: LSD836 Argentine Radio w/ARQ idler at 0739. (HOOD/OZ).
4213: VIP Perth Radio w/ARQ idler at 1006. (HOOD/OZ).

Abbreviations Used For Intercepts

AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/Ied/location
LSB	Lower Sideband mode
OM	Male operator
PP	Portuguese
SS	Spanish
tfc	Traffic
USB	Upper Sideband mode
w/	With
wx	Weather report/forecast
YL	Female operator
4F	4-figure coded groups (i.e. 5739)
5F	5-figure coded groups
5L	5-letter coded groups (i.e. IGRXJ)

4213.5: NOJ Kodiak CG Radio w/ARQ idler at 0840. (HOOD/OZ)
4216: KPH San Francisco Radio w/ARQ idler at 0740. (HOOD/OZ).
4218: LPD General Pacheco Radio w/ARQ idler at 0845. (HOOD/OZ).
4222: XSN Ningbo Radio w/CW ID at 1009. (HOOD/OZ).
4259: XSG Shanghai Radio w/CW ID at 1010. (HOOD/OZ)
4264: ZLO Irirangi Naval w/CW ID at 0937. (HOOD/OZ).
4274: KFS Palo Alto Radio w/CW ID at 0742. (HOOD/OZ).
4300.4: KEJ Hawaii Radio w/ARQ idler at 0743. (HOOD/OZ).
4308: HLG Seoul Radio w/CW w/tfc list at 1012. (HOOD/OZ).
4724: OFFUTT GHFS at 0450 w/EAM UJEDFL etc., echoed by Andrews at 0452z and simulcast on 6712. (JK/NY)
5001: 4XZ Haifa Naval, Israel at 0145 in CW w/v marker, fair through WWV. (AWH/SUS)
5058: VJA219, Outward Bound School, Australia at 2310 in USB w/ OSCAR wkg unid. regarding schedules. Same another day at 0213 w/ALPHA TANGO wkg VJA219 regarding a VIP group being shown their activities. (SD/AUS)
5077.5: FDG, French Air Force, Bordeaux, F in RTTY 50/400 usual 8-bit test tape at 1620. (JD/UK)
5116: Unid school of the air at 2302 in USB w/YL commencing a lesson. (SD/AUS)
5135: Cuban CW net, 1315 on, 2 stations, vvv stuff, good on 5465 on also. (AWH/SUS)
5227: VLH, School of Distance Education, Charleville, Australia, at 2354 in USB w/YL conducting "show and tell." (SD/AUS)
5243: VLH, School of Distance Education, Charleville, Australia, at 2356 in USB w/YL conducting spelling lesson. (SD/AUS)
5377: At 0515, Lima Tango November wkg unid, (NZ Army). At 0519, 63 wkg LTN w/ message re sending weapons to the nearest military establishment, and securing weapons in that establishment. (NJ/New Z)
5395: 0535z next one out should be 123, 121 was the last one (listed as NZ Army). (NJ/New Z)
5400: VNAA, P&O Polar at 2315 in USB wkg unid re docking, having relatives alongside and media wanting to interview scientists about being away so long. (SD/AUS)
5427: VNQ727, Capricornia School of Distance Education, Emerald, Australia, monitored at 2352 in USB w/OM concluding lesson. (SD/AUS)
5430: Unid military, France, Corsica ckt, 2300 on in ARQ-E 192/400, idle, weak. Bastia or Marseille? (AWH/SUS)
5450: Unid in EE w/wx or numbers msg in USB at 0533. Heavy QRN here. (DG/MI) *(RAF Volmet — Ed.)*
5505: Unid OM in EE w/wx for London Heathrow and others in USB at 0536. (DG/MI) *(EIP, Shannon Volmet, Ireland — Ed.)*
5541: Stockholm Radio wkg unid a/c w/rdo ck at 2215 in USB, frequency very active, this is a first contact channel. (LA/ITALY)
5555: At 0003, in USB, Australian fishermen w/conversation about rugby league and also about how diamond trawling will work. (SD/AUS)
5640: Three Note Oddity at 0444 on in USB, presumed the one w/GG YL 5FG 2x in progress, poor. (AWH/SUS)
5678: Aberdeen Coastguard, UK at 1233 in USB clg Scottish fishing vessels transmitting on frequency 5678 kHz, IDs as Aberdeen Coastguard, and advises them frequency is very close to an aeronautical distress frequency, req they move to another working channel. Fishermen replied and apologized, Aberdeen then wished them good fishing and informed Kinloss Rescue that the channel was now clear. (AG-UK)
5680: Navy 708 at 1122 wkg Kinloss Rescue, UK, Navy 193 at 1322 wkg Kinloss. Sarex 37 at 1329 in r/ck w/Kinloss. Navy 706 at 1331 w/Kinloss, is Sea King helo on Navex via the Great Canal and Fort William to Loch Lomond, SAR capable. Glucksburg Rescue, Germany at 1644 in r/ck w/PC137. DRFB (FGS Homburg M-1069) at 1307 in r/ck w/Glucksburg Rescue. Mission 4823 at 1345 wkg Glucksburg Rescue, adv is near Bochum and have tried on VHF and UHF all the time and no joy. Navy 700 at 1130 in r/ck w/ Kinloss. One Kilo Kilo at 1836 to 'Marines,' adv there will be another rotary wing asset with them soon, intentions for extraction. "Canberra" passing intentions for Rescue 12 are to stand by for marine deployment. DRFB (*FGS Homburg M-1069*) at 1057 w/Kinloss Rescue re unable to raise Glucksburg Rescue again, posn 5632.86N 007E, req helicopter on standby in case of diver emergency. (AG-UK)
5685: "Missione A960," an Italian heli-ambulance, passing ETA of 30 to Brindisi, height 900 Ft, other heli from Trapani is expected, tfc in Italian at 1715 in USB, this is primary frequency, a rdo ck on secondary was negative. (LA/ITALY)
5696: At 0036, CG 1718 est. radio guard with CAMSLANT, 5696 Primary/8983 Secondary, ETA to Guantanamo Bay was three hours. At 0302, CG1718 w/CAMSLANT for pp to D7 ops, reported diverting 150 miles off course in unsuccessful attempt to avoid inclement wx, planned to divert to Nassau until morning then try again, asked D7 ops to advise Clearwater ops, and to contact Nassau for clearance, ETA one hour. (JK/NY) KING 52 (HC-130, Moody AFB, GA) wkg CAMSLANT at 0100 to 0245 ref flare drops in W-157 and confusion w/CGS Panama City over flare sightings in W-151. CGAS Savannah wkg CAMSLANT for radio check at 1637. (RM/GA) CG 6009 reporting flt ops normal to CAMSLANT at 0044. (MF/ OH)
5841: 15 CHARLIE w/ops check w/PANTHER at 0046. PANTHER calling 10C at 0102. (MF/OH)
5853: VLH, School of Distance Education, Charleville, Australia, at 0008 in USB w/YL conducting student news. (SD/AUS)
5872.2: Pyongyang, N. Korea in AM 1200 on, w/sign-on w/usual IS, not NA, YL ann interspersed w/operatic vocal mx, no numbers tfc today. Poor, getting worse. (AWH/SUS)
5933: Unid military, France? 2300 on in ARQ-E 72/400, idle, poor. (AWH/SUS)
6224: Navy tracking net, 2245 on in USB, FOXTROT wkg LIMA, others, good, briefly thru commercial maritime tfc. Bad choice of freq. (AWH/SUS) *(Albert refers to the fact that 6224 is a maritime simplex frequency used by tugs, towboats, and others in the Gulf of Mexico and inland waterways — Ed.)* ZLD, Auckland Radio in USB w/wx at 0916. (HOOD/OZ).
6315: ZLA Awanui Radio w/ARQ idler at 0917. (HOOD/OZ).
6316: NMN CAMSLANT Chesapeake w/ARQ idler at 0918. (HOOD/OZ).
6316.5: UDB2 Kholmsk Radio w/ARQ idler at 0919. (HOOD/OZ).
6317.5: NOJ Kodiak CG Radio w/ARQ idler at 0920. (HOOD/OZ).
6320: KPH San Francisco Radio w/ARQ idler at 0921. (HOOD/OZ).
6323.5: NMC CAMSPAC Point Reyes w/ARQ idler at 0922. (HOOD/OZ).
6344: HLF Seoul Radio w/ARQ idler at 0925. (HOOD/OZ).
6407: UAI3 Nakhodka Radio w/CW ID at 0926. (HOOD/OZ).
6432: UAI3 Nakhodka Radio w/CW ID at 0927. (HOOD/OZ).
6451: HLG Seoul Radio w/CW ID at 0928. (HOOD/OZ).
6454: XSG Shanghai Radio w/CW ID at 0930. (HOOD/OZ).
6482: CLA Havana Radio w/CW ID at 0932. (HOOD/OZ).
6501: NOJ Kodiak CG Radio in USB w/wx 0933. (HOOD/OZ) CAMSLANT Chesapeake wkg unid cutter (on 6200) at 0109. (MF/OH)
6733: IDR, Italian Navy, Rome, wkg "N66," then unid station clg IDR in EE w/posn report placing them in North Adriatic Sea, between Italy and Slovenia, monitored at 1500 in USB. (LA/ITALY)
6739: At 0454, Andrews in USB repeating the UJEDFL . . . , etc. EAM and simulcasting on 8992. (JK/NY)
6754: At 1030, CJX, Canadian Forces, St. Johns Military Volmet in USB, gave Wx observation in EE for Winnipeg. (SI/VA)

6757: ROAD CREW at 1125 in USB on Z165 clg CHURCHMAN requesting entry into the net then w/challenge process, ROAD CREW req confirmation of secondary as Z125. CHURCHMAN advises secondary as Z170 (7831 kHz) and will meet him there in one mike. (SD/AUS)
6779: "DREI" w/rdo ck w/German Navy Wilhelmshaven monitored at 2100 in USB. (LA/ITALY) *(DREI is the international c/s of the German mine-hunter ship Lindau, M-1072, frequently heard on 5680 also wkg Glucksburg Rescue — Ed.)*
6815: ICI, Italian Navy Rome, wkg "NA1," an a/c from Pescara in patrol on sea reserve at 0730 in USB. (LA/ITALY)
6839: Unid Spook stn in CW, 0100–0330 on, continuous 25 wpm 5LG 1x, no breaks of any kind noted in several hours. Not on next night. (AWH/SUS)
6916: Cuban CW net, 0355 on, one station audible wkg crossband, hand key, xlnt. This one only heard at night so far. Usual op procedures. (AWH/SUS)
6943: Unid digital stn, 2345 on, 40/1300 reversals, on every two min for 40 sec., weak. Probably Russian. (AWH/SUS)
6985: Unid Latin American Military (?) in CW monitored at 1155 on, net, machine-gun bug keying w/extra dits, fair, 25–30 wpm. Mostly numeric group tfc, no IDs. REA4, Russia at 2357 on, tentitive, 50/1000 reversals, weak. (AWH/SUS)
6996: Sarajevo clg Zagreb, OM in Slavic language, no joy, at 0755 in USB. (LA/ITALY)
7307: Australian Distance Learning Service in USB teaching at 0010. (HOOD/OZ).
7530: Australian Distance Learning Service in USB teaching at 0012. (HOOD/OZ).
7634: France? Unid military monitored at 0110 on in ARQ-E 72/400, alpha idle, strong. (AWH/SUS)
7637: VNQ727, Capricornia School of Distant Education, Emerald, Australia, at 2301 in USB w/teacher greeting each member of year one w/a little song. (SD/AUS)
7643: VLR, Longreach School of the Air, Australia, at 2346 in USB w/OM conducting writing lesson. (SD/AUS)
7695: Unid net of various slavic stations, alphanumeric c/s and "ciao" (Italian greeting) as "hi," monitored at 0915 in USB, outbanders? (LA/ITALY)
7803: Unid school of the air at 2307 in USB w/YL conducting craft lesson about stitches. (SD/AUS)
7865: Warsaw Radio w/pp in Polish language at 2041 in USB. (LA/ITALY)
7919: "METAPHOR" (USAF, believed to be Ramstein AB) in USB wkg "JAGO" (i.e. JGOxx) aircraft at 1630. (JD/UK)
7926: REA4, location unknown, in CW (not FSK) w/usual broadcast at 1640. Also 4706 and 5227, but not on 6985 kHz. (JD/UK)
8002: U.S. Military tactical net, 1445 on in USB, W6D wkg A8R for radio check, weak, also V1E, some callsign confusion evident. (AWH/SUS)
8122: Canberra Naval Control in USB wkg unid vsl at 2310. (HOOD/OZ).
8128: Unid military tactical net, 1400 on in USB, UK, or NZ accents, 0 wkg U40A and U42A for radio checks. (AWH/SUS)
8279: Unid vsl in USB wkg Sydney Radio for pp at 0001. (HOOD/OZ).
8294: USCG Group Miami, Florida, at 1919 in USB clg P9I, latter very weak and Miami couldn't copy; QSY 5696. (AWH/SUS) *(Another maritime simplex freq — Ed.)*
8417: ZLA Awanui Radio w/ARQ idler at 0003. (HOOD/OZ).
8417.5: KFS Palo Alto Radio w/ARQ idler at 0742. (HOOD/OZ).
8417.5: XSV Tianjin Radio w/ARQ idler at 1041. (HOOD/OZ).
8418: LSD 836 Argentine Radio w/ARQ idler at 0739. (HOOD/OZ).
8418: IAR Rome Radio w/ARW idler at 0518. (HOOD/OZ).
8419: VIP Perth Radio w/ARQ idler at 0005. (HOOD/OZ).
8420: KHF Guam Radio w/ARQ idler at 0744. (HOOD/OZ).
8420.5: 9VG Singapore Radio w/ARQ idler at 2052. (HOOD/OZ).
8420.5: CBV Valparaiso Radio w/ARQ idler at 0832. (HOOD/OZ).
8421: WLO Mobile Radio w/ARQ idler at 0522. (HOOD/OZ).
8421.5: 9AR Rijeka Radio w/ARQ idler at 0523. (HOOD/OZ).
8422: ESA Tallinn Radio w/ARQ idler at 0521. (HOOD/OZ).
8422.5: KPH San Francisco Radio w/ARQ idler at 0745. (HOOD/OZ).
8425: KLB Seattle Radio 0747 w/ARQ idler at 0747. (HOOD/OZ).
8426: NMC CAMSPAC Point Reyes w/ARQ idler at 0748. (HOOD/OZ).
8427: OXZ Lyngby Radio w/ARQ idler at 0524. (HOOD/OZ).
8429: EAD Madrid Radio w/ARQ idler at 0836. (HOOD/OZ).
8430.5: WLO Mobile Radio w/ARQ idler at 0837. (HOOD/OZ).
8431.5: UAT Moscow Radio w/ARQ idler at 0526. (HOOD/OZ).
8432.5: UFN Novorossiysk Radio w/ARQ idler at 0527. (HOOD/OZ).
8433: 8PO Barbados Radio w/ARQ idler at 0838. (HOOD/OZ).
8434.5: LPD General Pacheco Radio w/ARQ idler at 0815. (HOOD/OZ).
8435.5: OST Ostend Radio w/ARQ marker at 0528. (HOOD/OZ).
8448: A9M Bahrain Radio w/CW ID at 2049. (HOOD/OZ).
8453: FUG, French Naval at 0840 in RTTY 75/850 w/availability message. (PP/FRA) *(La Regine — Ed.)*
8459: LSD836 Argentine Radio w/ARQ idler at 0839. (HOOD/OZ).
8473: HLF Seoul Radio w/ARQ idler at 0819. (HOOD/OZ).
8484: HLF Seoul Radio w/CW ID at 0841. (HOOD/OZ).
8502: XSG Shanghai Radio w/CW ID at 0820. (HOOD/OZ).
8505: UFZ Vladivostok Radio w/CW ID at 1218. (HOOD/OZ).
8511: XSW2 Taichung Radio w/CW ID at 0842. (HOOD/OZ).
8557: SPE Stettin Radio w/CW ID at 0531. (HOOD/OZ).
8582: REA4, Russia at 0300 to 0320, in digital FSK 50/200 reversals, off around 0320, poor. (AWH/SUS)
8828: Honolulu Volmet in USB at 0830. (HOOD/OZ).
8867: Auckland Radio in USB wkg Indonesian 712 at 2315. Brisbane Radio wkg V-HCCA for route clearance at 2317. Brisbane Radio in USB wkg New Zealand 202A at 0028. Same wkg Qantas 65 at 0859. (HOOD/OZ).
8879: Mauritius Aero wkg unid a/c at 2127 in USB. (LA/ITALY)
8906: "1033" clg Santa Maria Aero no joy for two mins, after contact, passes position report, hrd 2000 in USB. (LA/ITALY)
8912: U.S. Customs COTHEN active w/ "Turkey Talk" secure voice at 0123 in USB (MF/OH)
8931.7: Unid Egyptian diplo at 2330 to 2338, ARQ 100/170, ATU80 text wkg return link on 9221.8, latter continuous carrier but this one conventional. Both good level, off w/YKS YKS (Bye Bye) 9221.8 reported as Cairo, 8931 not previously. (AWH/SUS)
8971: TRITON 722, FIGHTING TIGER 721, WT 721, CARDFILE 71F, CARDFILE 71H, RED CLAW 71G, QUARTET 713 all wkg. FIDDLE, 3WA, and Q9J for QSL times on spare groups sent on Link 11. Apparently, part of RUM PUNCH exercise held in April. SPECTRE 02 wkg FIDDLE, U2L. Also SPECTRE 01 wkg U2L ref. not having established comms w/SPECTRE 02. Also SPECTRE 01 wkg BLUE STAR in the green. All between 0330 and 0500. WESTERN SKY clg NDP003 at 0300. All in USB. (RM/GA)
8974: OHAKEA at 0115 in USB clg (HMNZS) WARSHIP CANTERBURY for radio check with no joy. AIR FORCE SYDNEY at 0408 clg ENVOY 605 (Falcon 50) w/ voice and selcal w/ no joy. (SD/AUS)
8983: RCC Bermuda at 0044 in USB wkg RESCUE 1500 (USCG) by request as latter arrived at unid rescue scene. QSO arranged by CAMSLANT since 1500 worried about losing comms, all good. (AWH/SUS) CG Air Station Savannah wkg CAMSLANT for radio check at 1639. (RM/GA)
8992: At 2240, NAVY LN45A wkg ANDREWS GHFS pp to duty office. At 0756, ANDERSEN GHFS YL op clg REACH aircraft calling MAINSAIL, this is ANDERSEN, how copy, first time here logging Anderson. (JK/NY) THULE w/pp for KING 52 to KING OPS at 0208. (MF/OH) All in USB.
9016: At 0721, WAR46 calling and raising BACKFIELD, frequencies passed Z175 Primary Z170 Secondary, then gone. (JK/NY)
9031: At 0500, ASCOT 5291 in USB wkg unid w/selcall ck AJ-GM. (NJ/New Z)
9123.5: Unid French Military at 2322 in ARQ-E 184.5/400, strong, idle. Macedonian site maybe, no tfc seen. (AWH/SUS)

9143: Unid at 0140 in RTTY 50/500 sounds like, caught end of it, then switched to FSK morse w/"QAP W9158" then gone. (AWH/SUS)
9197: XP Spook, 2014 to 2015, polytone station, slowly varying tones to 2015 short burst of fast tones (null msg?) then gone. (AWH/SUS)
9263: 4XZ Haifa Naval, Israel at 2018 in CW w/v mkr, weak, //16317 etc., into 5LG tfc. (AWH/SUS)
9266: Unid Australian net at 2315 in USB w/OMs discussing meeting at Limestone and the merits of different four-wheel drives. (SD/AUS)
9270: Mossad (E10) at 0549 in AM, numbers station w/msg SYN2. (SD/AUS)
9363.5: RFFXCC Favieres, France, at 2255 in ARQ-E 184.5/400, fair, idle. PT on WUN reports ckt CRT to Macedonia. (AWH/SUS)
10000: WWVH under WWV w/storm warnings at 0710. (JK/NY)
10046: 4XZ, Haifa Naval, Israel, in CW at 1930 w/marker. (PP/FRA)
10145: Numbers station in AM, until 0256 w/5F groups in Spanish, very strong carrier (S9+50db) but a lot of hum and distortion on audio and cut out completely occasionally. (MC/OH)
10712: Russia? Unid military at 0257 BEE 36/300 reversals, w/no traffic. (AWH/SUS)
10713: Spanish Man (V7) at 0600 in AM, numbers station w/call-up 725 and null msg. (SD/AUS)
10893: High Pitched Polytone (XPH) at 0600 in AM, tonal numbers station. (SD/AUS)
10915: JGO87 (?) at 0558 in USB wkg JGO 86 w/ conversation about aerodrome and en route wx. (SD/AUS)
11053: PACAF-01 at 2241 in USB via ANDREWS pp to Hickam CP. (JK/NY)
11107: Spanish Man (V7) at 0600 in AM numbers station w/call-up 124 id 4961 grp 120. (SD/AUS)
11140: Cuba, SVR, in AM at 0303, EE/YL w/ "309" call-up. (AWH/SUS)
11170: 4XZ Haifa Naval, Israel, in CW monitored at 2338, v mkr, xlnt, //10046/16317. (AWH/SUS)
11175: AAEE wkg Hickam re pp to AAC2, gives posn, sea condition, etc. (DJ/NM) *(AAEE is U.S. Army Transportation Corps vsl* USAV General Brehon B. Somervell LSV-3 — *Ed.).* Andrews reporting primary for a/c, MAGNOLIA, as Z1750 at 0517. AAFA clg mainsail, Hickham replies, w/no answer back at 0519. (DG/MI) *(AAFA, USAV SP4 James A. Loux, LSV-6 — Ed.)* At 1721, AIREVAC 4X4 via Thule w/pp to Hilda East and to Andrews AFF (spelled phonetically Alpha Foxtrot Foxtrot). At 0314, TIGER 41 clg mainsail and raising Ascension for pp to RAYMOND 06. At 0227, Incirlik GHFS, Turkey, running pp to Elmendorf Metro for DARK-26. (JK/NY) Anderson at 1249 w/ EAM for VAGABOND LOVER (7Q2HPH). (SD/AUS) Thule w/pp for REACH 0543 to Dover meteo at 2109. Thule w/pp for REACH 370 (C-17) Lajes CP and meteo. (MF/OH) All in USB.
11196: MARINER 408 at 0349 in USB clg AIR FORCE TOWNSVILLE requesting flight guard with a posn. as 36 13S 138 59 E and will call again at 0415Z. (SD/AUS)
11220: SAM 60621 req signal check w/ Andrews at 2349 in USB. (MF/OH)
11270: Numbers station, 3F (x 2) OM in Russian, "noil" as zero, at 0825 in USB w/carrier. (LA/ITALY)
11273: Balkan Airlines, w/wx in Bulgarian at 1539 in USB. (LA/ITALY)
11300: Tripoli Areo, wkg Alitalia 840 in EE at 1150 in USB. (LA/ITALY)
11455.5: Unid U.S. military at 1948 w/ ATTENTIVE clg unid (missed) very strong, hum on ckt. (AWH/SUS)
11387: Singapore Volmet in USB at 0822. (HOOD/OZ).
12093: High Pitched Polytone (XPH): 0620 UTC AM tonal numbers station 23/APR (SD/AUS)
12207: Unid Australian commercial net at 0525 in USB w/short conversation and selcals. (SD/AUS)
12213: Spanish Man (V7) at 0610 in AM numbers station w/call-up 725 and null msg. (SD/AUS)
12365: VIP, Perth Radio in USB wind warnings at 0153. (HOOD/OZ)
12580: ZLA Awanui Radio w/ARQ idler at 0442. (HOOD/OZ).
12580.5: KFS Palo Alto Radio w/ARQ idler at 0512. (HOOD/OZ).
12582: VIP Perth Radio w/ARQ idler at 0029. (HOOD/OZ).
12583.5: CBV, Valparaiso Radio w/ARQ idler at 0443. (HOOD/OZ).
12584: VIP Perth Radio w/ARQ idler at 0039. (HOOD/OZ).
12585.5: KPH San Francisco Radio w/ARQ idler at 0445. (HOOD/OZ).
12588: HEC, Berne Radio w/ARQ idler at 0517. (HOOD/OZ).
13022: SPE Stettin Radio w/ARQ marker at 0645. (HOOD/OZ).
13024: ASK, Karachi Radio w/CW ID at 0507. (HOOD/OZ).
13072.4: KFS Palo Alto Radio w/ARQ idler at 0644. (HOOD/OZ).
13077: EHY Madrid Radio in USB wkg unid vsl at 2257. (HOOD/OZ).
13083: VIS Sydney Radio in USB wkg M/V "Banasea" at 0629. (HOOD/OZ).
13282: Honolulu Volmet in USB at 0636. (HOOD/OZ).
13893: High Pitched Polytone (XPH) at 0640 in AM tonal numbers station. (SD/AUS)
14280: American Airlines flight clg New York in USB, mentioned problems w/radio freq, unid ham radio op told him what freq he was on. (DJ/NM)
14396.5: VL8IPS Darwin w/CW/data propagation tests at 0310. (HOOD/OZ)
14428: Russia? Unid Military at 0325, 81-81 81/250, tfc, some interruptions w/Morse "QJG K" and back to data. (AWH/SUS)
14658: Two stations in unid language apparently using NATO phonetics and procedure. They were testing some kind of RTTY w/an

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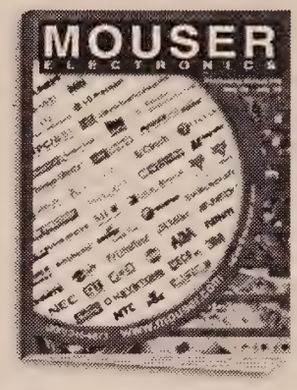

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offset of 2000 Hz (i.e. center freq was 14660). The characteristics were shift 200 Hz, speed 75 bd, ACF 200 w/a short passage at the end of one transmission showing an ACF of 120. (JD/UK)

14843: Cuba, Russian SVR at 2230 in RTTY 75/500 callup for JMS on link 00127, two msgs sent. (AWH/SUS)

15034: VXA, Canadian Forces Edmonton Miltary (Volmet) in USB w/wx Broadcasts in EE. (SI/VA)

16317: 4XZ Haifa Naval, Israel, in CW at1937, w/v marker. (AWH/SUS)

16531: ZLM Taupo Radio in USB wx b/cast at 0947. (HOOD/OZ).

16593: Unid at 1420 in FEC 100/170 ref. to NATO, Milosevic, Krisi sto Kosovo all in unid language. At the end of the transmission, there was a list of countries w/numbers in front of them, the numbers were of monetary value. (JG/FL) *(Common maritime ship digital frequency, numbers were currency exchange rates common to maritime news relayed by ships of many nations on these types of frequencies often. They are often mistaken for "official" news services. See March 1998 column — Ed.)*

16806.5: NMC CAMSPAC Point Reyes w/ARQ idler at 0415. (HOOD/OZ).

16807.5: ZLA Awanui Radio w/ARQ idler at 0356. (HOOD/OZ).

16809.5: EAD Madrid Radio w/ARQ idle at 0416. (HOOD/OZ).

16809.5: VIP Perth Radio w/ARQ idler at 0357. (HOOD/OZ).

16811: CBV Valparaiso Radio w/ARQ idler at 0359. (HOOD/OZ)

16811.5: A9M Bahrain Radio w/ARQ idler at 0400. (HOOD/OZ).

16812.5: NRV Guam CG Radio w/ARQ idler at 0148. (HOOD/OZ).

16815: 9VG Singapore Radio w/ARQ idler at 0942. (HOOD/OZ).

17362: At 1433, WLO Mobile Radio in USB on shore transmit (ship receive) frequency, French or Portuguese station clg back to shore. Received an answering machine message in EE. (SI/VA)

18293.7: FDX, France, at 1520 in ARQ-E3 200/400, ckt FDX w/ offline crypto tfc to RFF-VAEA, Operation Alysse, Riyadh. Should be paired w/ return link ESK/FWK. (AWH/SUS)

18825: Unid coastal, poss Russian, at 1855 in USB, RR language QSO, wkg m/v BAIKAL, cross-band on "17" per op, no ID though. (AWH/SUS)

19685.5: WLO Mobile Radio w/ARQ idler at 0101. (HOOD/OZ).

19692.5: ZSC Capetown Radio w/ARQ idler at 0914. (HOOD/OZ).

19696.5: 8PO Barbados Radio w/ARQ idler at 0102. (HOOD/OZ).

19736.4: ZLA Awanui Radio w/ARQ idler at 0448. (HOOD/OZ).

19741.4: 8PO Barbados Radio w/ARQ idler at 0449. (HOOD/OZ).

19884: Cherry Ripe (E4) at 0123 in USB, numbers station in progress //21866 26/APR (SD/AUS)

19910: HLF Seoul Radio w/ARQ idler at 0716. (HOOD/OZ).

20813.7: RFTJD, Gabon? at 1440 to 1515 in ARQ-E3 192/400 idle, Gabon reported twice in WUN, but no ckt ID given. (AWH/SUS)

20946.5: VL8IPS Darwin CW/data propagation tests at 2257. (HOOD/OZ).

22376: NMO Honolulu CG Radio w/ARQ idler at 0457. (HOOD/OZ).

22376: NMC CAMSPAC Point Reyes w/ARQ idler at 0736. (HOOD/OZ).

22381: 9VG Singapore Radio w/ARQ idler at 0735. (HOOD/OZ).

22382: NRV Guam CG Radio w/ARQ idler at 2314. (HOOD/OZ).

22383: VIP Perth Radio w/ARQ idler at 0727. (HOOD/OZ).

22389.5: NMO Honolulu CG Radio w/ARQ idler at 0728. (HOOD/OZ).

22409: UFL Vladivostok Radio w/ARQ idler at 2317. (HOOD/OZ).

26350: Voice pager, City Art Museum, pp in AM, note: here in Italy 26200+26350+26500 KHz are low-power channels for voice/non voice pager in AM or FM mode. (LA/ITALY)

26915: "CB like" station are ships from fishing in the Adriatic Sea, at 0935 in AM in Italian. (LA/ITALY)

26960: Unid NATO military at 1425 in RTTY 75/850 crypto. (AWH/SUS)

30000: U.S. military comms in NFM at 2100, ARAPAHOE FOX, ARABIAN FOX, THUNDERHORSE FOX, OBSERVER, various QSOs re range ops and "Billiard Hill." (AWH/SUS)

30180: Unid Costa Rican stn in NFM at 1850, OM/SS re customer account (local disco), balance given in Colones, thus presumed location. (AWH/SUS)

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CB/Ham Dictionary

A translation guide for some common terms from "CB" to "ham."

Many new hams today come to amateur radio from CB, which is great. But they often bring with them a lot of CB jargon, which generally isn't used on the ham bands and immediately marks you as a "newbie," to borrow a term from the online world.

So here, for your convenience, is a guide for translating some of the most common CB lingo into ham lingo—along with an explanation of what it means in English. And speaking of English, there's usually no reason to use any shorthand at all, provided both parties in a QSO (oops, contact) speak the same language. There's no substitute for plain language.

"CBspeak"	**"Hamspeak"**	**Notes or English translation**
"Handle"; "personal"; "first personal"	"Name"	Some old-timers do use "handle."
"Handle" (as a station identifier)	"Callsign"	(but you already knew that one)
"10-4"	"Roger" or "QSL"	Yes; message received. *10-codes generally aren't used in ham radio.*
"10-20"; "20"	"QTH"; "location"	Location
"Good buddy"	"Old man"; "OM"	How you refer to someone when you've forgotten his name; you're expected to remember women's names, as I've never heard anyone say "Good morning, YL."
"Threes"; "73s"; "best 73s"; "all those good numbers"	"73"	"73," an old wire telegraphers' code for "best wishes." Making it plural, as in "73s," makes it "best wisheses," and "best 73s" means "best best wisheses."
"The four-lane"	"the highway"	
"Piggy bank"	"toll booth"	(but hams do sometimes pay tolls with "green stamps," dollar bills)
"Smokey"	"trooper"	"Smokey reports" are generally not done on ham radio.
"18-wheeler"	"truck"	
"4-wheeler"	"car"	
"work" (as in the place you work)	"the work QTH"; "the salt mine"	(Sometimes it's the hams who use the silly jargon.)
"rig"	"rig"	radio
"radio check"	"signal report"	"How strong is my signal?"
"Pinning the meter"	"Full quieting" (on FM); "5-9" (on SSB)	"Your signal is very strong."
"Breaker-breaker"*	"(your call) listening" (on FM); "CQ" (on SSB/CW)	

* Depending on where you are in the U.S., the term "break" may be used for joining a contact in progress or may be reserved for emergency use. Listen for local procedure. The double "break-break" is always reserved for an emergency.

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How Emergency Managers Get Live Weather Information . . .

By The National Weather Service

The National Weather Service (NWS) and America's emergency managers continue to strengthen their partnership to help protect lives and property faced by the threat of severe weather. One shining example of this alliance is The Emergency Managers Weather Information Network (EMWIN), a system that transmits live weather information to computers across the U.S. and over most of the Pacific Ocean.

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How EMWIN Works

The NWS gathers live weather and emergency information from sources across the globe, and the EMWIN system broadcasts that data using several methods: satellite, radio, and the Internet. A satellite downlink is the key that enables computer users to access a stream of real-time weather information from the Geostationary Operational Environmental Satellites — the GOES-8 and 10.

The EMWIN data stream is retrieved from satellite by emergency management groups and municipal agencies, and retransmitted through local radio frequencies. The retransmission can be accessed by anyone within a 40–50 mile range of the transmitter's signal and displayed on their computer screen. Using free retransmission software, agencies can tailor the information to fit their specific area by filtering the products — warnings, watches, and other weather news — that do not apply. To some small island countries, it is the most reliable method for receiving forecasts and warnings.

Through the Internet, computer users also can receive the broadcast and access the datastream by visiting the EMWIN Website at **<http://iwin.nws.noaa.gov>**. Users are given a choice of receiving weather information with enhanced graphics, including radar and satellite images, or in a plain text format. Additionally, users can download free EMWIN software that operates with the Internet, or through other wireless technology.

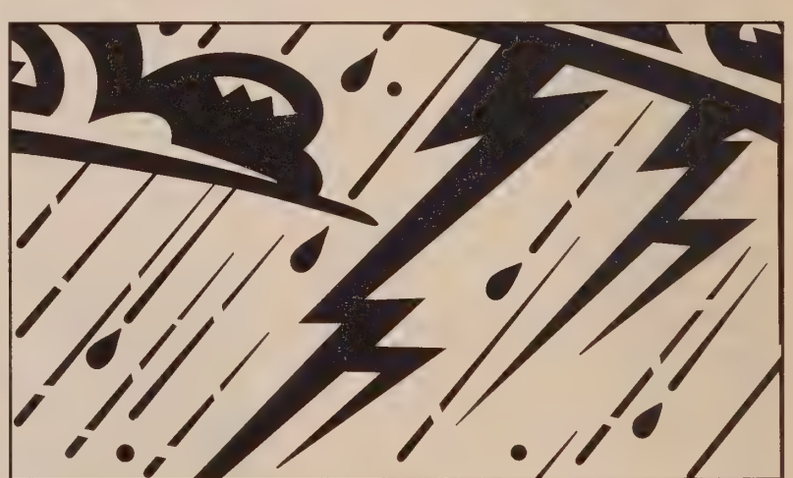
Each live broadcast contains:

- warnings and watches for all forms of severe weather
- earthquake and tsunami data
- fire danger statements
- current hourly reports for each state
- zone forecasts for individual counties and zones in each state
- satellite, radar, and other imagery
- short term forecasts, called NOWcasts
- aviation weather information
- hydrologic information and reports
- climactic data
- worldwide data, including forecasts, warnings, imagery, and graphics

Anyone who receives the broadcast can configure their computer to sound an alarm when a certain product arrives. Alarm features include: automatic activation of lights, sirens, printers, pagers, electronic mail, and other forms of notification. These techniques are ideal for people on the go, the disabled, emergency management operation centers, or anyone that needs to stay informed about weather and emergency situations.

The Future Of EMWIN

Since its debut in September 1995, the popularity of EMWIN has flourished, as the number of visits to its Internet site,



<http://iwin.nws.noaa.gov>, reveals. The site averages more than 40 million visits each month and, during major weather events, can field more than two million hits a day. EMWIN is now evolving into a fully-operational and supported public service provided by the NWS, and its partner, the Federal Emergency Management Agency, as well as other public and private organizations.

What Some People Are Saying About EMWIN

B.J. Fictum, deputy director for the Saline County Emergency Management Agency in Nebraska, says: "We have been using [EMWIN] for more than a year . . . and we are very pleased with it. It has saved us thousands of dollars in vehicle damage for [severe storm] spotters."

Thomas Mefferd, the coordinator for the Office of Emergency Management in DuPage County, Illinois, says "The beauty of the [EMWIN] system is that it is affordable to all units of government, as well as the general public. Through the receipt of timely data, via EMWIN, I am sure that lives will be saved and property damage can be reduced."

J. Herman, of Hurricane Watch Net, says: "This system is a godsend . . . never has technology been used to save lives and property in such an affordable manner. We now routinely receive Hurricane bulletins within seconds of issuance by the National Hurricane Centers in Miami, Florida, and Honolulu, Hawaii."

Key EMWIN Website Addresses

For more information about EMWIN, including a brief overview and an index of other related documents, visit <http://iwin.nws.noaa.gov/emwin/index.htm>.

For the latest information about EMWIN transmission and reception capabilities, check: <http://iwin.nwsnoaa.gov/emwin/wintip.htm>.

In many areas, the EMWIN data is rebroadcast by local radio. For further information about rebroadcasts, visit <http://iwin.nws.noaa.gov/emwin/retrans.htm>.

For updated information about the EMWIN vendors, including technical information about their hardware, and software, visit <http://iwin.nws.noaa.gov/emwin/winven.htm>. ■

BY GERRY L. DEXTER

Clandestine Communiqué

TUNING IN TO ANTI-GOVERNMENT RADIO

Nigeria Again A Clandestine Target

Changes in the Nigerian government a while back, coupled with a shortage of funds by some of the broadcasters involved, caused there to be a period of about three months during which Nigeria wasn't the target of a single clandestine broadcast. That has now changed with the return of **Radio Kudirat**, which is broadcasting via the shortwave facilities of South Africa. The programs are on the air daily from 1900 to 2000 on **6205** and **11560**. It identifies itself as Radio Kudirat — "the Voice of Democracy." Oddly, this return comes thanks to a third backer, pro-democracy activist Professor Wole Soyinka. Initially, the station had been backed by the National Liberation Council of Nigeria and later the United Democratic Front of Nigeria, although it appears that UDFN may still have a hand in the current operation.

A new anti-Castro program is **Conversando Entre Cubanos**, produced by the Asociation de Ex-presos Politicos Cubanos and aired **over WRMI, Miami, on 9955** Saturdays from 0000 to 0030 and Sundays from 0130 to 0200. This backing organization has backed other anti-Castro programs in previous years.

Others on the air via WRMI are: **La Voz de Alpha 66,** Monday–Friday from 0000 to 0100 and 0900–1000; **La Voz de la Fundacion,** Monday–Saturday from 1000–1200 and 2300–0000; **Alternativa** on Saturdays from 1300 to 1330; **Foro Militar Cubano,** Saturdays 1900–2000 and Sundays 1400–1500; **La Voz de la Disidencia,** Saturdays and Sundays 2130–2200; **Radio Revista Lux,** Saturdays 0100–0200 and Sundays 1100 to 1200; **Puente de Jovenes Profesionales Cubanos,** Sundays 1500 to 1600, and **Radio Roquero,** Sundays from 2200 to 2230. All of the programming is in Spanish. The Castro government continues to jam WRMI, sometimes with greater success than others, at least at this listening location,

South Korean clandestine **Radio Echo of Hope**, broadcasting to the North, is now operating on **6003, in addition to its long-used 3985**. The schedule is 0000–0300 on both frequencies, 0500 to 0800 on 3985, 1200 to 1600 on **6348**, and 2000 to 0000 on 3985 and 6003. If you live in North America, your best chance of hearing this one is during the early morning hours. All the programming is in Korean.

There's a new clandestine effort aimed at Uganda. The Lord's Liberation Army (anti-government rebels operating in the southern part of Uganda) has put a shortwave station on the air. At the moment, however, the name of the station is unclear, nor has a frequency been reported, but it apparently operates daily at 1400.

Radio Free Iraq, operated by the U.S. government, is currently scheduled at 0200 to 0400 on **6140, 7255, 9730, and 9865**; at 1500 to 1700 on **6185, 11805, 12025, and 15160.**

Rainbow Radio, targeted to Ethiopia, is on the air via transmitters in Germany, at 1600 on 11840.

WWCR in Nashville is carrying something called **Radio International**, broadcasting in Farsi and operated by CHAIR — the Committee for Humanitarian Assistance to Iranian Refugees.WWCR airs the program Monday through Friday at 1400 on **15685.**

The Polisario Front says its station, **Polisario Radio,** is now using **9902** between 1800 and 2200 with broadcasts in Spanish and Arabic, probably emanating from the Western Sahara refugee camps in Algeria. For some time now, there have been rumors that the Polisario Front would be on shortwave with its own facility, (they were relayed by Radio Algeria for a number of years) but so far the actual existence of a Polisario shortwave outlet hasn't been confirmed.

The U.S. government has awarded Continental Electronics a $1.7 million contract for a new 100 kW transmitter to be used by the Radio Free Asia service from its Saipan transmitter site.

That will do it for this time. Please continue sending your material in each month. We're looking for clandestine radio and associated information in the form of loggings, schedules, addresses, background information, QSL notes — anything related to the subject. Many thanks for your continued support! ■

BY EDWARD TEACH

The Pirate's Den

FOCUS ON FREE RADIO BROADCASTING

More Nasty Clinton Talk, And Bingo Spoofs

We're loaded for bear this month, so let's check out your pirate loggings!

Radio Metallica, 6954.5, 2210 with dance music, talk of Sammy Sosa. Too many four-letter words. Again on **6956.8** at 0224 with Dr. Tornado and Sr. El Nino. (William Hassig, IL) 2358 with rock, Secret Agent theme. Off at 0003. Blue Ridge Summit address. (Dave Jeffery, NY) 0405 with nasty Clinton talk, insulting Alan Weiner of The Planet, various songs, including some by Metallica. (Bill LaDassor, OR) 0420 with Dr. Tornado and Kosovo discussion. Claimed to be 1,000 watts. (Otero, CA)

(Free) Radio America, 6958v USB at 2300 with silly and porn talk, mentioned they were the "skull and crossbones of radio." Also at 1940 with a test and at 2045 on **6955.8,** but sudden shift to 6958 at 2113, then off. Also tentative at 0015 with some young guys talking trash, rap, and QRM from a station on **6955**. (Hassig, IL) 0115 with various music, drug references. (Jerry Coatsworth, ON)

Blind Faith Radio, 6955 USB at 2230. DJ was Dr. Napalm. Also at 0040 with Canadian heavy metal. (Hassig, IL)

Radio Bingo, 6955 USB at 2300 with spoof of a bingo game. (Hassig, IL)

Lounge Lizard Radio, 6955 USB at 1837 with Providence address. ID, "Volare" song IS and off. (Jeffery, NY)

WHIP, 6955 USB monitored at 0018 sign-on with weather and music. No address. (Jeffery, NY)

Blind Rage Radio, 6955 USB at 1631 with rock and skits about the FCC. Off at 1703. Merlin address. (Jeffery, NY)

Free Hope Experience, 6955 at 1517 with James Brown songs, instrumentals, and rap. No address given. Off at 1537. (Jeffery, NY)

Betty Boop Radio, 6955 at 1859 with a repeat of a Halloween show. Providence address, Betty Boop music. Off 1926. (Jeffery, NY)

WACK Radio, 6955 USB at 0004 with IDs, talks with another pirate, funny ads. No address, but phone given as 888-959-8177. (Jeffery, NY) 0056 talking about Maine, urged listener calls to 888-959-8177. Various skits including one on shoplifting. Technical problems at 0138. (Taylor, PA)

WPUP, 6955 USB at 0103 with mention of New World Order and Y2K. (Coatsworth, ON)

KMUD/Black Rock Radio, 6954 for several days at various time including 0218, 0145, 0246, 0154, (Randy Ruger, CA) 0315 with rock, barking seal ID, CW IDs, Dylan. Also at 01435 to 0201 with CW ID sent twice, voice ID at end along with quacking duck ID.(Dale Otero, CA) 0300, IDing as **"Black Rock Radio, the terror of the Mojave Desert."** (Walter Schino, CA)

Shortwave Relay Service, (tentative) 11470 USB at 0224 with many IDs over electronic music. (Ruger, CA)

Offshore 99, 6210, 2102 with disco. (Sergey Kolesov, Ukraine)

WMPR, 6955 at 0127 with techno-pop. Off at 0136. Also at 2316 to 2353 and another day at 1933 with Grateful Dead stuff. Also at 0211. (Tim Taylor, PA)

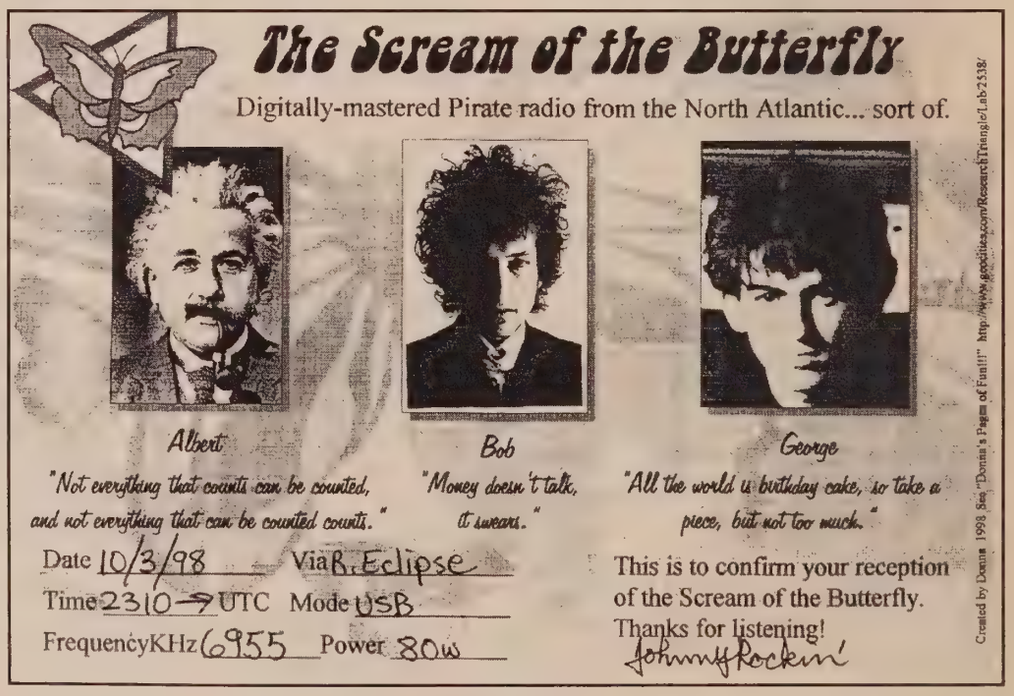
WPN, 6955 at 0152 with P.O. Box 11522, Huntsville, AL 35814 address, various songs, power of 170,000 milliwatts. (Taylor, PA)

WKND, 6955 at 2259. "Check the ACE for the best and worst pirates." Gave Blue Ridge address. (Taylor, PA)

WLIS, 6952 USB, 0212 with Bram Stoker, Blue Ridge address, $1 or 3 postage stamps for QSL. Later P.J. Sparkx. (Taylor, PA)

RBCN, 6955 USB at 0005. Address as Radio Bob Communications Network, P.O. Box 24, Lula, GA 30554. (Taylor, PA)

WMFQ, 6955 USB, monitored at 0104


The Scream of the Butterfly
Digitally-mastered Pirate radio from the North Atlantic... sort of.
Albert
"Not everything that counts can be counted, and not everything that can be counted counts."
Bob
"Money doesn't talk, it swears."
George
"All the world is birthday cake, so take a piece, but not too much."
Date 10/3/98
Via R. Eclipse
Time 2310→UTC
Mode USB
Frequency KHz 6955
Power 80w
This is to confirm your reception of the Scream of the Butterfly.
Thanks for listening!
Johnny Rockin'
Created by Donna 1998. See "Donna's Pages of Fun!!!" http://www.geocities.com/ResearchTriangle/Lab/2338/

Tim Taylor's QSL from the Scream of the Butterfly.

with Providence address. Off at 0110. (Taylor, PA)

Radio Express/WWRX, 6955 at 0103. (Taylor, PA)

Radio Azteca, 6955 USB with sign-on at 2151. Program 52 (or maybe 32). Various songs, talks, and features. (Taylor, PA) 2050 with program 31. (Coatsworth, ON)

WGTG, 6955v USB. Spoof of the real WGTG. Said to QSL via Radio Eclipse, Box 28413, Providence, RI 02908. (Hassig, IL)

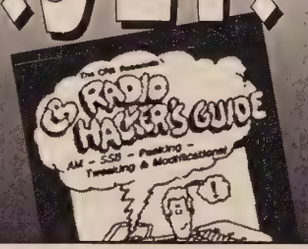
Voice of Prozac, 6955 USB at 2323 with woman announcer giving a Pittsburgh address. (Coatsworth, ON)

Radio Chad, 6955 USB giving his E-mail address while in QSO with an unidentified operator. (Coatsworth, ON)

Sorry, but I had to cut some of the older loggings of stations already included this month. It's better if you can try and check in each month with logs from 30 days of the date you send your report. And, yes, E-mail reports will be forwarded to me by the editor, Harold Ort, if you want to send them to him and mark them for my attention. I still need illustration material so if you have, or can run copies of QSLs or letters, I'll be glad to get them.

See you next month. ■

YOU AIN'T HEARD NOTHIN'....YET!



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CIRCLE 11 ON READER SERVICE CARD

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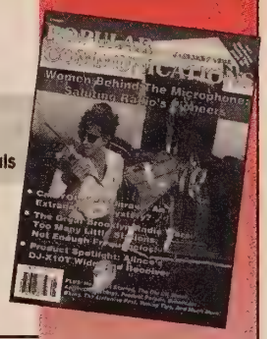
POP'COMM also takes a look at what CBers are doing on the air in their communities not only in the US and Canada, but also abroad. The 27-megahertz CB band is truly an international band around the world and ***POP'COMM*** brings you the exciting news that keeps you current with the CB hobby.

In addition, ***POP'COMM*** will be featuring a look at the "other CB," GMRS, or the general mobile radio service, over the coming months. With the ready availability of these UHF handheld radios, more and more CBers are escaping from the crowded 40 channels to this virtually quiet FM band for personal communications. Read along as we check out what radios are available for this exciting band that compliments CB.



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CB Scene

BY JOCK ELLIOTT
<lightkeeper@sprintmail.com>

27-MHz COMMUNICATIONS ACTIVITIES

Y2K, Cool Switches, And Lightkeepers

Boy, I don't know whether to go to the Millennium Ball or to "hunker in the bunker." The rollover of the calendar to the year 2000 seems to have lots of folks in an uproar. But one thing is for sure: if you are making preparations, be sure to include CB as an alternate means of communicating.

But first, some background. At the heart of the so-called Y2K problem is that nobody knows for sure what will happen when the world's computers are suddenly confronted with a year that ends in zero-zero and doesn't begin with 19. While it has been called the millennium bug, the Y2K problem (that's short for year 2000) isn't a bug at all. It's actually what was considered to be a design advantage that has lived long enough to bite us in the behinds. To understand it, we have to go back to the early days of computing, when there was no such thing as a desktop computer and all computing was done on giant mainframe machines. Back then, when computer resources were scarce, programmers made the conscious decision to record the year with just *two digits*. And, that became the accepted convention. Programmers felt good about it because it saved on computing power and storage space.

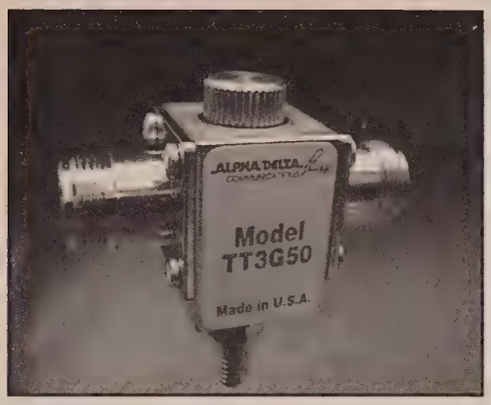
To put this into perspective, remember that the first PCs had only 64K *not Megs* of memory and typically programs were stored on a single 640K floppy disk. So, of course, there was an emphasis on writing lean, mean programs that could do the most with the least amount of computer resources. Now, of course, all that has changed: programs are enormous; you can buy many megabytes of memory for less than a hundred dollars; and the average PC has computing power that would turn a 1960s programmer green with envy.

But one thing hasn't changed until recently. Programmers continued to use the last two digits to represent the year. After all, it was the accepted convention. Within the past few years, however, there has been the dawning realization that this could cause a problem. I suspect it was the financial types who thought about it first: "Gee, this could screw up our billing systems and the way we compute interest." While it could be a pain in the cheeks to get a dunning letter for a bill that is past due since the year 1900, in the past year, people have begun to think about a far more serious consequence of the Y2K problem. What if the year 2000 rollover causes problems with the computers that control the way we generate and distribute electricity? As we discovered during the great northeast ice storm of 1998, lack of electricity can be a lethal problem. There were people who went without electrical power for five weeks. Civil authorities suddenly discovered they were completely unprepared to cope with a power outage of that scope. Remember, too, the year 2000 rollover will occur at midnight, December 31, in the dead of winter. In many places in the United States and Canada, that means below freezing temperatures for weeks at a time. Many heating systems depend on electricity to make them go. People can freeze to death. They may not be able to obtain water. Any communication system, including phones and public service radios, which does not have back-up power, may be inoperative.

Here's a Lightkeeper Certificate awarded to a Canadian Channel 9 monitor.

The utility companies claim that they are running tests and that all is well. But as one wag put it: that's a little like asking elementary school students to grade their own papers. Even such conservative organizations as the Red Cross are advocating that people store some food and water. The hell of it is, no one knows for certain what will happen. Some folks say Y2K will be about as inconvenient as dialing a wrong number. Others — I suspect those who stand to profit from selling to people who are scared out of their minds — advocate buying guns, creating safe havens, and getting ready for widespread civil disorder. The truth probably lies somewhere in the middle, but again, nobody knows for sure.

As CB operators, I think we should hew to the old adage: "hope for the best, prepare for the worst." If you've got a generator, make sure it works, and that you have fuel for it. Make sure you know how to hook it up to your radios and your home heating system. And remember that a

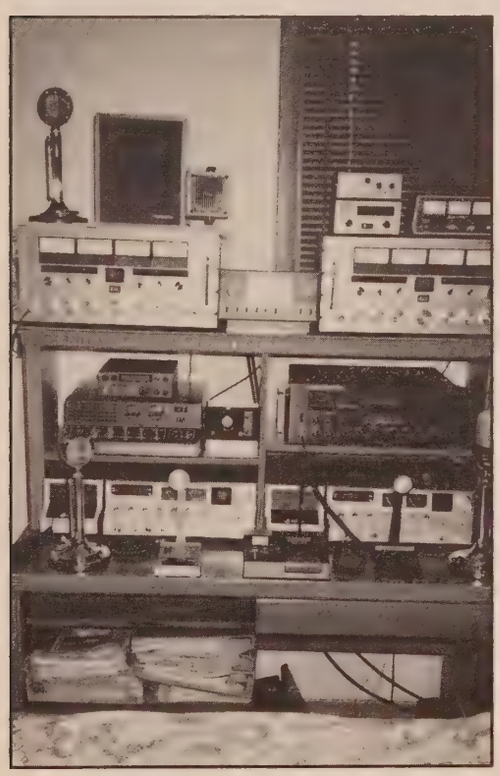


The TT3G50 Transi-Trap mounts outside to intercept lightning-induced surges. It could save your shack.

vehicle equipped with a mobile unit has both a battery and a generator on board, so maybe all you need to do is to make sure you can hook your base antenna coax to the car parked in your driveway. Buy some extra batteries for the handi-talkies.

You might consider contacting your neighbors and see what their situation is. Perhaps you should figure out ahead of time how you could share resources with them. Now is the time to act!

If you are a member of a club, now is the time to be contacting civil authorities and ham radio clubs and making a plan to work together in case the worse happens. This is the perfect time for local clubs of all kinds to figure out how they can work together. It would be far better to figure it out now, rather than try to develop a plan on an ad hoc basis . . . in the cold . . and the dark.



This shack photo from my secret correspondent north of the border says it all. Cool radios, anyone?

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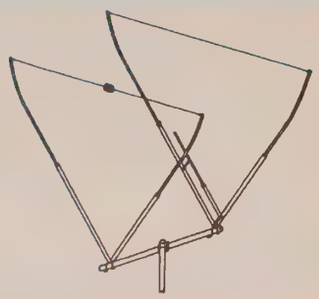

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CIRCLE 68 ON READER SERVICE CARD

Cool Stuff From Alpha Delta

If there is one thing that I have noticed about CBers, it's that they really like their gear. What's starts out as a simple station with a base radio and an antenna, pretty quickly turns into multiple radios and often a couple of antennas. Soon after, the CBer discovers that endlessly screwing and unscrewing coax connectors to switch between different rigs and antennas can be downright annoying. What is clearly needed is an efficient way of hooking up multiple CBs so that they can be switched to one antenna or a way to connect multiple antennas to one transceiver.

Enter Alpha Delta Communications, a firm that enjoys a solid reputation for manufacturing and distributing coaxial surge protectors, coaxial switches, HF mobile and fixed wire antennas, deluxe communications speaker systems, and CW keys and paddles. So, when they asked me if I'd like to check out one of their Delta series switches, it took me only about half of a blink to reply with an enthusiastic "Yes."

So, Alpha Delta sent me one of their Delta-4 combination coax-switch/surge protector, that can accommodate up to four antennas hooked to one transceiver or four transceivers connected to one antenna. My overwhelming impression as I pulled the Delta-4 out of its packing was: "Wow, this thing is built like a battleship." And indeed it is. Manufactured in the USA, the Delta-4 design features a cast housing with a thick metal backing plate. A solid positive decent roller bearing switch drive leaves no doubt to which position is selected. Unlike some of the cheap sheet metal switches I've used in the past, that sort-of sliiiiide into position (leaving you wondering whether the thing is fully engaged or not), the Delta-4 crisply snaps into each operating position. The quality of this switch is simply amazing.

The unused antenna circuits are automatically grounded to reduce antenna interaction, noise, and the effects of lighting. For the in-use antenna circuit, Alpha Delta's replaceable Arc-Plug Cartridge provides continuous protection. The Arc-Plug is easily accessed through the front panel so you may permanently mount the switch to any surface.

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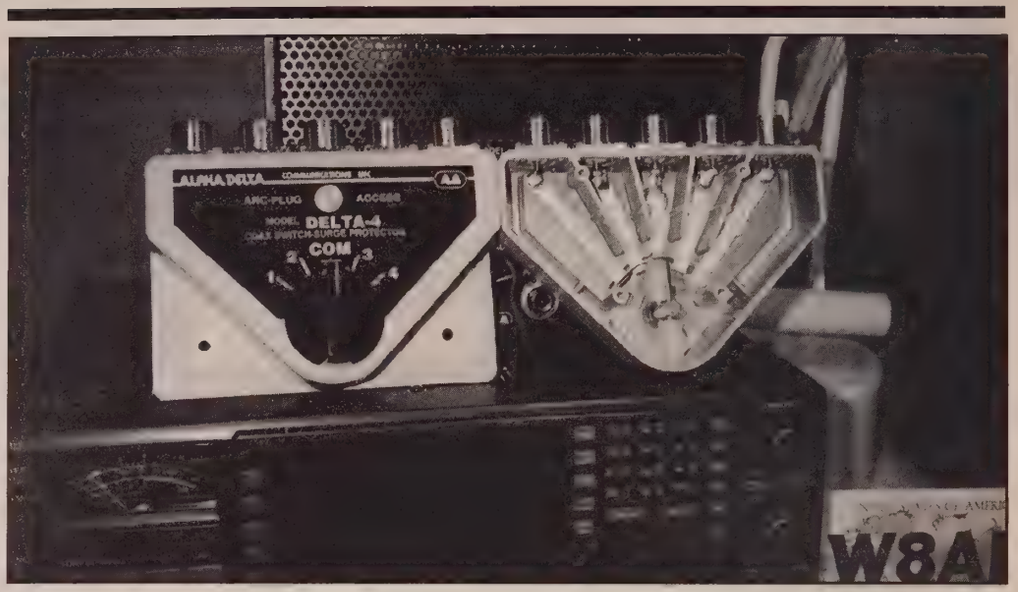

The Delta series switches are rugged, handsome, and super high-quality.

(ground position), all antenna circuits are internally disconnected and grounded. To take advantage of the protection offered by Delta-4's Arc-Plug surge protector, the Delta-4 must be grounded, using one of the mounting holes. The Arc-Plug Cartridge is designed to reduce the hazards of lightning-induced or other high voltage-induced surges. It is not, however, designed to prevent fire or damage caused by a direct lightning strike to an antenna, power lines, or other structure.

Should a nearby lightning hit occur, the ceramic gas tube Arc-Plug Cartridge will short to ground, protecting your equipment. If the strike is moderate, the cartridge will return to normal operation. If the strike is severe, the cartridge will short to ground and stay that way until it can be replaced. The Arc-Plug performs as a voltage-dependent switch to reliably and repeatedly carry large currents for brief periods of time.

The life of the cartridge is a function of the surge current amplitude and duration to which the device is subjected. After a sufficient number of lightning pulses have been discharged through the cartridge, there is a gradual lowering of breakdown voltage and insulation resistance. Eventually, your receiver will go "deaf" or your SWR will go through the roof. If a replacement cartridge is not immediately available, you can continue operation (without lighting transient protection) by removing the cartridge from the switch.

The Delta-4 costs $79.95 and looks like it should last for decades. A two-position model is also available, for $49.95. Both the two- and four-position models can handle up to 1,500 watts.

For those who would like to provide *outside* surge protection for their setups, Alpha Delta also offers the TT3G50 Transi-Trap Surge Protector. This weatherproof device can be inserted into your coax line outside the house, where it protects the equipment inside from lightning-induced surges. Like the Delta switches, it must be grounded to work, and uses an Arc-Plug Cartridge to provide protection. The cost of the TT3G50 is $49.95, in either 300-watt or 2,000-watt versions. For addition information about Alpha Delta products, drop them a note at P.O. Box 620, Manchester, KY 40962. You can also call them at 606-598-2029 or visit their Website <http:www.alphadeltacom.com>.

Lightkeeper Certificates

In the April column, I wrote: "If you monitor Channel 9, write to me and let me know. Send a self-addressed stamped envelope, and I'll send you a special 'Order of the Lightkeeper' certificate. Send a large stamped envelope if you want it sent without folding." Well, a number of people have taken me up on the offer, but in case you missed it, it's still open. So, if you monitor Channel 9, write to me, and I'll send you your very own hand-numbered and signed certificate. (Unfortunately, I cannot honor E-mail requests, because there is no way to deliver a stamped enveloped through the Internet.) I would especially like to hear about your monitoring experiences.

Until next time, keep those cards, letters, and shack photos coming! Write to me at *Pop'Comm* or E-mail me at <lightkeeper@sprintmail.com>. ■

Broadcast DXing

BY BRUCE CONTI
<BAConti@aol.com>

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

Yugoslav Air Campaign: A War Of Words

Although the air bombing attack was the primary focus of the NATO effort in the Kosovo conflict, there was another air attack of sorts that became equally important, as an intense propaganda campaign bombed the airwaves with conflicting reports from both sides. To counteract Yugoslav government propaganda, NATO launched its own broadcast service reminiscent of the 1035-kHz Radio Democratic broadcasts during the Haiti crisis of 1994. NATO Allied Voice Radio and Television was broadcast from specially-equipped United States EC-130 planes at 20,000 feet. Broadcasts were transmitted every afternoon on 1003 kHz AM, 92.5, 102.5, and 106.4 MHz FM, and channel 21 TV.

A bumper sticker from the former "Rock of Boston."

Applied For Permits To Construct New AM Stations

CA	Folsom	1030 kHz	
CT	Oakville	590 kHz	

Applied For Permits To Construct New FM Stations

AK	King Cove	88.1 MHz	100 watts
AK	Palmer	88.5 MHz	100 watts
AL	Birmingham	91.1 MHz	
AL	Eufaula	91.9 MHz	1 kW
AL	Heflin	89.1 MHz	16.5 kW
AR	Arkadelphia	91.9 MHz	250 watts
AR	DeQueen	88.7 MHz	250 watts
AR	Hampton	88.1 MHz	250 watts
AR	Marked Tree	90.1 MHz	
AR	Russellville	89.7 MHz	
CA	Trinity Center	90.7 MHz	
CA	Yucca Valley	88.1 MHz	8.4 kW
CO	Craig	88.3 MHz	
CT	Pomfret	91.1 MHz	100 watts
FL	Cocoa Beach	89.7 MHz	
FL	Lakemont	89.3 MHz	
IA	Lake Mills	89.1 MHz	
IA	Oskaloosa	89.5 MHz	
IA	Postville	89.1 MHz	
ID	McCall	90.7 MHz	220 watts
IL	Effingham	89.5 MHz	400 watts
IL	Morris	90.7 MHz	7 kW
IN	Morristown	88.1 MHz	1 kW
IN	Trafalgar	88.3 MHz	1 kW
KS	Bronson	88.3 MHz	99 kW
KS	Hays	91.7 MHz	
KS	Olsburg	91.3 MHz	
KY	Corbin	88.5 MHz	
KY	Glasgow	88.3 MHz	19 kW
MA	Nantucket	89.5 MHz	500 watts
MI	Clark Lake	88.7 MHz	
MI	Imiay City	89.1 MHz	
MI	Snover	88.9 MHz	
MN	Fergus Falls	91.5 MHz	100 watts
MN	Windom	90.9 MHz	250 watts
MO	Cuba	91.9 MHz	5 kW
MO	Kirksville	89.7 MHz	
MS	Burnsville	91.9 MHz	
MS	Columbus	88.5 MHz	980 watts
MS	Columbus	90.5 MHz	6 kW
MS	Yazoo City	89.5 MHz	350 watts
ND	Devils Lake	89.9 MHz	
NE	Alda	90.7 MHz	
NJ	Plainfield	90.3 MHz	300 watts
NM	Hobbs	90.9 MHz	500 watts
NV	Las Vegas	96.7 MHz	
NV	Las Vegas	101.5 MHz	
NV	Las Vegas	102.9 MHz	
NV	Jackpot	91.3 MHz	
NY	Beekman	88.3 MHz	
NY	Brooklyn	91.9 MHz	
NY	Chateaugay	88.1 MHz	
NY	Montauk	88.7 MHz	2.7 kW
NY	Morristown	91.1 MHz	
OH	Botkins	88.7 MHz	1.15 kW
OH	Norwalk	90.7 MHz	4 kW
OK	Grove	88.9 MHz	6 kW
OR	Depoe Bay	89.3 MHz	
OR	Monroe	88.3 MHz	250 watts
OR	Rainier	91.1 MHz	
PA	Hollidaysburg	88.1 MHz	450 watts

PA	Warwick	88.1 MHz	100 watts
PA	Williamsport	89.7 MHz	
SD	Freeman	90.5 MHz	
TN	Kingston	90.1 MHz	
TN	Union City	88.9 MHz	250 watts
TX	Beaumont	88.5 MHz	12 kW
TX	Port O'Connor	91.9 MHz	
TX	Sealy	90.7 MHz	2 kW
TX	Spearman	89.5 MHz	
VA	Chase City	90.1 MHz	1.5 kW
WA	Lacy	90.1 MHz	
WA	Olympia	90.1 MHz	
WA	Port Angeles	89.3 MHz	
WA	West Clarkston	89.7 MHz	
WA	White Salmon	88.1 MHz	
WI	Forestville	91.3 MHz	
WI	Marinette	91.3 MHz	
WV	Crab Orchard	90.1 MHz	1 kW
WY	Douglas	91.7 MHz	
WY	Jackson	88.3 MHz	
WY	Jackson	89.1 MHz	
WY	Laramie	96.7 MHz	
WY	Sheridan	89.9 MHz	
WY	Sundance	91.5 MHz	

Granted Permits To Construct New FM Stations

AR	Heber Springs	89.7 MHz	
CO	LaJunta	89.1 MHz	
MT	Colstrip	93.7 MHz	
NV	Lund	88.7 MHz	
NV	West Wendover	89.7 MHz	
OH	Steubenville	88.9 MHz	
PA	Tafton	88.3 MHz	850 watts
TX	Marble Falls	88.5 MHz	
VT	St. Johnsbury	88.5 MHz	

Reinstated

KAXA	Pioche, NV	98.9 MHz	

Cancelled

WIOA-FM1		Fajardo, PR	99.9 (booster only)

Seeking Changes To AM Facilities

WRNI	Providence, RI	1290 kHz	Seeks to increase power

Previously Approved Change Now Cancelled

WOLF	Syracuse, NY	1490 kHz	Shift to 1510 kHz, 50 kW days

Changed FM Facilities

KDVE	Tatum, TX	99.9 MHz	Changed city of license
WFOW	Grove Hill, AL	106.1 MHz	Changed city of license
WKZZ	Tifton, GA	92.5 MHz	Changed city of license

New FM Call Letters Issued

KOOO	Rocky Ford, CO
KROK-FM	Mecca, CA
KSCN	Pittsburg, TX
KWVZ	Florence, OR
WAAQ	Mackinaw City, MI
WBJD	Atlantic Beach, NC
WHWG	Trout Lake, MI
WMIH	Harrisville, MI
WWOC	Hatteras, NC

Pending FM Call Letter Changes

New	Old	
KILM	KSOX-FM	Raymondville, TX
KNKI	KIKM	Denison, TX
KUUU	KMGR	Tooele, UT
WERK	WERK-FM	Muncie, IN
WFMM	WJSJ	Sumrall, MS
WHTI	WAXT	Alexandria, IN
WHTY	WWWO	Hartford City, IN
WURK	WLHN	Elwood, IN

Changed FM Call Letters

New	Old	
KAJZ	KFIE	Merced, CA
KCNL	KLDZ	Fremont, CA
KCSE	KKCN	Sterling City, TX
KCYI	KTNT-FM	Edmond, OK
KDHI	KKJT	Joshua Tree, CA
KFRO-FM	KCGL	Gilmer, TX
KKCH	KCSE	Ballinger, TX
KKJT	KDHI	Twentynine Palms, CA

1003 kHz is strategic because it's a split frequency between the 999- and 1008-kHz regular AM broadcast channels assigned, according to the 9-kHz standard frequency allocation. (AM broadcast frequencies are separated by 9 kHz in Europe, whereas stations in the Americas are separated by 10 kHz.) Both 9 kHz frequencies are home to Radio Beograd, Yugoslav government stations. FM and TV frequencies were also strategically selected, such that they would be received during power blackouts or when government stations went off the air. The operation, nicknamed "Commando Solo," broadcast news of the atrocities committed by the Serbian military under the leadership of Milosevic. In addition, key Yugoslav broadcast facilities were bombed by NATO forces, including the 2,000-kilowatt Radio Beograd station at 684 kHz, which represented the best Yugoslav target for Atlantic coast North American DXers. Unlike the in-flight broadcasts over Haiti on 1035, which were widely heard, there have been no known North American loggings of 1003 kHz as of yet.

The Politics Of Broadcast Journalism

The Canadian Broadcasting Corporation's CBC Radio One hosted a special two-hour public forum to address the

KLDZ	KOPE	Medford, OR
KMGV	KNAX	Fresno, CA
KRFD	KSGI	Richfield, UT
KSCH	KDXE	Sulphur Springs, TX
KSRC	KOZN	Kansas City, MO
KSXY	KHBG	Healdsburg, CA
KVSS	KNOS	Omaha, NE
KXJO	KZSF-FM	Alameda, CA
WAJZ	WPTR	Voorheesville, NY
WARL	WKLO	Veedersburg, IN
WBKI	WLSN	Greenville, OH
WCLX	WMEX	Westport, NY
WCRI	WVBI	Block Island, RI
WDBQ-FM	WJOD	Galena, IL
WFMM	WJSJ	Sumrall, MS
WHLF-FM	WJLC	South Boston, VA
WJLC	WLCQ	Clarksville, VA
WJOD	KIKR	Asbury, IA
WKGS	WYSY	Irondequoit, NY
WKLO	WARL	Marengo, IN
WPYO	WTLN-FM	Apopka, FL
WRML	WMAP-FM	Pageland, SC
WWHK	WZRK	Stephenson, MI
WXTF	WZMQ	Key Largo, FL
WYAC	WAVI	Christianstead, VI
WZRK	WJOK	Kentland, IN

Pending AM Call Letter Changes

New	Old	
KIXT	KBFW	Bellingham, WA
KLIB	KRCX	Roseville, CA
WJOK	WSGC	Kaukauna, HI
WYFY	WIDZ	Rome, NY

Changed AM Call Letters

New	Old	
KBZS	KBPA	Palo Alto, CA
KCWJ	KOWN	Blue Springs, MO
KNAX	KBEG	Clovis, CA
KVTA	KTRO	Port Hueneme, CA
KWKC	KYYD	Abilene, TX
WHLY	WJVA	South Bend, IN
WRCW	WTOF	Canton, OH
WRNU	WCMQ	Miami Springs, FL
WSUN	WFNS	Plant City, FL
WWRU	WBAH	Elizabeth, NJ

media's coverage of the Kosovo conflict, called "The Truth, The War, and the Media." Many questions regarding reports of war scenes choreographed for the media were raised. Both the Yugoslav government and NATO were said to be guilty of such propaganda, leaving the general public to sort through the media reports and arrive at its own conclusions. Some also questioned the media emphasis on Kosovo, essentially ignoring human suffering in other parts of the world in the name of ratings and revenue.

This was certainly a bold move by the CBC, but refreshing to those who have lost faith in the CBC, as well as other once widely-respected broadcast organizations and their ability to present in-depth news without bias or sensationalism.

Another CBC Casualty

Unfortunately, reception of quality CBC programs has become less than optimal for listeners of CBM Montreal at 940 kHz. CBM finally went dark without fan-

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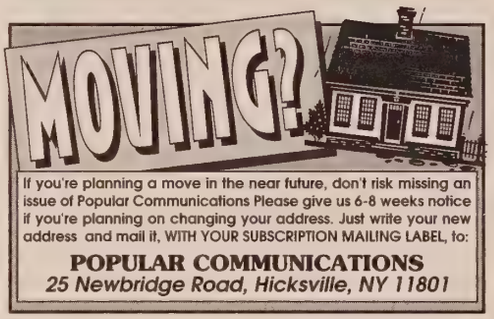

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fare, abruptly switching from CBC Radio One to a repeating announcement 24 hours before pulling the plug; "CBC Radio One has discontinued broadcasting on the 940-AM frequency. Our programming is now heard at 88.5 on the FM dial." Prior to this, similar messages interrupted regular CBC programming every 10 minutes on 940, but no special programs celebrating the history of CBM were offered in the final days on the air. "Moving CBC English Radio to FM means that more Montrealers will be able to receive our signal more clearly and enjoy the distinctive, high-quality, commercial-free programming only CBC provides," says Patricia Pleszczynska, Director of CBC English Radio, Quebec Region, in a press release. CBC Radio One programs formerly on CBM can still be heard on CBL Toronto at 740 kHz and CBE Windsor at 1550 kHz. Although not on the same schedule as 740 and 1550, CBC programs can also be heard by listeners in the northeast on CBA Moncton at 1070 kHz. Although pristine FM signals are available to most Quebec listeners via cable TV, the CBC has received complaints about FM reception.

Tips for the best possible FM reception are offered on the CBC Radio One Website at <http://www.radio.cbc.ca> in the Quebec region/Montreal section. CBME 88.5 FM has applied for an increase in power to improve reception in the Montreal area. 940 is the second of two AM frequencies abandoned by the CBC in Montreal, with CBC Radio One joining Radio Two on FM. CBF at 690 kHz has been dark for a few months, giving DXers the opportunity to hear stations such as WOKV Jacksonville, Florida, WJOX Birmingham, Alabama, Radio Progreso-Cuba, and Radio Recuerdos, Bogota, Colombia. Potential DX targets on 940 include WINZ Miami, Florida, WCPC Houston, Mississippi, Radio Reloj-Cuba, "La Tropi-Q" XEQ-Mexico, and two stations from Venezuela; Radio Punto Fijo and Radio Fe y Alegria. Catch 'em while you can, as one of the former CBC frequencies is targeted for a new French-language all-news service, and the other is expected to become home to a commercial broadcaster.

Extreme Radio

Talk radio is moving to FM as a new format comes to FM radio in Boston and New York City. First in New York, Howard Stern is moving to WNEW 102.7 FM, where he'll be joined by the likes of Steve Dahl, Opie and Anthony (formerly of WAAF Boston fame), Tom Leykis, and Loveline, to complete what is to become known as "Extreme Radio" on CBS/Infinity-owned stations and affiliates. WBCN Boston on 104.1 FM, already carrying Stern and Loveline, will become the next victim, ending a well-established 30-year history as "The Rock of Boston."

Art Bell reached a milestone in radio, beating a long-standing record set by Larry King. Art Bell's Coast-to-Coast and Dreamland programs now hold the record for the most affiliates, with 442 stations carrying his brand of late night talk radio. Art Bell recently returned to the airwaves after his over-exaggerated disappearance that read more like a tale out of the X-Files. Topics of discussion are typically about extraterrestrials and government conspiracies. A recent program talked about the chemical spraying of U.S. citizens by contrails to fuel microchip implants for mind control. Is it truth or fiction? Listen in and then decide! Art Bell is also known as the voice of C.Crane and the CCRadio. Coast-to-Coast airs weeknights into the wee hours of the morning, and Dreamland can be heard on Sunday nights in most areas on AM radio.

Summer Reading

A significant contribution to documenting the development of radio broadcasting has been authored by Jerome S. Berg, noted originator of the Committee to Preserve Radio Verifications. *On the Shortwaves, 1923–1945* explores the early days of radio through QSLs and the DX hobby. The book covers a time when commercial/private broadcasters were common on mediumwave and shortwave, starting with experimental AM radio, leading to KDKA, and the birth of broadcasting. It's a great read, and a worthy addition to any DXer's library regardless of persuasion, MW or SW. It's available from the publisher; McFarland &

Co., Inc., Box 611, Jefferson, NC 28640 or <http://www.mcfarlandpub.com> on the Internet.

Another book of historical interest first brought to my attention through a review in the NASWA Journal, *The Historical Dictionary of American Radio,* edited by Donald G. Godfrey and Frederic A. Leigh, is an excellent general reference of radio past and present. As the title suggests, it is a dictionary containing the definitions of everything from disc jockey to WEAF in alphabetical order. Contact Greenwood Publishing, P.O. Box 5007, Westport, CT 06881 or <http://info.greenwood.com> for more information.

From the National Radio Club comes news that the latest edition of the NRC *AM Radio Log* is sold out. *The AM Radio Log* is considered to be the best source of information for DXers of Canadian and U.S. AM broadcast stations, providing addresses, hours of operation, format descriptions, network affiliations, and other vital statistics in each listing. The next edition is expected to come off the press in October.

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1630 KKWY Cheyenne, Wyoming, E-mail QSL in 15 days for E-mail follow-up report, signed Paul Montoya, Owner. E-mail address: <PaulMontoya@aol.com>. Only two more to have all 23 Wyoming stations QSL'd! Per verie, they only use 1 kW day and night and they are doing work on their antenna system. (Martin, OR)

Patrick Griffith, author of *AM Broadcast Station Antenna Systems — A Basic Guide,* paid a personal visit to KKWY/KJJL and filed this report regarding the facilities and QSLs:"I met owner Paul Montoya and most of the rest of the staff. I found them to be very personable and friendly. I was allowed to sit at the actual on-the-air production consoles for both stations and was given a very complete demonstration of the automation equipment. Both stations are automated about 22 hours of the day and carry separate programming.

Mr. Montoya has been in the broadcasting business for many years and has held virtually every position, including engineer. He was also once an avid DXer and knows the importance of QSL cards. He stated that Patrick Martin's Internet QSL is practically the only QSL he has issued for KKWY, so far. He presently has over 200 reception reports on file for KKWY, including some from Europe! He will soon be having an official QSL card printed and when that is done, he will start to catch up on the veries. He urged listeners to continue to send reports so that they will be 'in queue' when the QSL cards are ready.

Mr. Montoya also told me that the station is actually running about 240 watts day and night on the powered-down 1,000 watt transmitter. This is due to the limitations of the temporary antenna they are using. It is a home-brew, 40-foot, base-loaded, folded unipole tower with a 100-foot horizontal wire attached to the top. The wire originally ran SE to NW from the tower, but this caused a null into Cheyenne. The antenna wire now runs NE to SW, so most of the groundwave signal from the wire should be going toward the NW and SE from Cheyenne. The wire is 40 feet off the ground at both ends. This antenna is located at the present site of the KJJL antenna and transmitter. The plan is to switch KKWY to the 148-foot self- supporting tower now being used by KJJL and move KJJL to a new site farther south. When I visited the transmitter site, the housings for the new KKWY tuning units were on-site and awaiting installation."

Broadcast Loggings

We've got some interesting catches from overseas readers in this month's selected loggings; Patrice Privat reporting from northern France, and Sergey Kolesov of the Ukraine. All times are UTC.

189 Georgian Radio, Tbilisi, at 0100 clear, while Europe 1 was off the air for maintenance. (Privat, France)

690 WJOX Birmingham, Alabama, at 0300 weak to fair with ID as "Sports Radio 690 Jox, WJOX Birmingham." (Renner, PA)

690 Caribbean Beacon, Anguilla, heard at 0215 good with Dr. Gene Scott parallel KAIJ 5810 SW, no sign of R. Progreso-Cuba or R. Recuerdos-Colombia. (Conti, NH)

720 CHTN Charlottetown, Prince Edward Island, at 0230 moderately strong with ID, "Pumping 10,000 watts of good times and great oldies, Good Time Oldies, 720 CHTN." (Renner, PA)

940 XEQ Mexico City, Mexico, at 0410 fair with "Tropi-Q" IDs and music over R. Reloj-Cuba with CBM-Montreal off. (Conti, NH)

1062 Country Radio, Praha, Czech Republic, heard at 1600 in Czech. (Kolesov, Ukraine)

1215 Voice of Russia, Kaliningrad area (tentative), with World Service in Russian. This is an additional frequency instead of 1548 kHz, which is used for special Balkan Service. (Kolesov, Ukraine)

1440 BSKSA Damman, Saudi Arabia, at 2100 in clear, parallel a stronger 1521 signal. It's the only Gulf area station I can get with my Panasonic RFB45 and built-in telescopic antenna. (Privat, France)

1550 KZRK Canyon-Amarillo, Texas, with ID at 0900, "You're tuned to News-Talk 1550 AM, KZRK, Canyon-Amarillo" into NBC News. Listed as 219 watts at night. (Martin, OR)

1690 KDDZ Arvada, Colorado, at 0145 with Radio Disney promos, under WMDM Maryland. (Renner, PA)

Thanks to Mark Connelly, Patrick Griffith, Sergey Kolesov, Patrick Martin, Patrice Privat, and Allen Renner. 73 ■

Washington Beat

BY ALAN DIXON, N3HOE
<n3hoe@juno.com>

FCC ACTIONS AFFECTING COMMUNICATIONS

New Scanner-Type Acceptance Regulations

The Federal Communications Commission released new anti-cellular scanner-type acceptance regulations on March 31, 1999. Surprise, but no surprise. Amidst the ongoing stir caused by proposed scanner-related legislation bill H.R. 514 before Congress earlier this year, many scanner enthusiasts seemed to be caught unaware of this new FCC Report and Order.

ET Docket 98-76[B] had been in process for about a year, with the requisite comment and reply comment periods open. Before the veins start popping out in your neck, let's have a look at some of ET 98-76's provisions.

Just what constitutes a "scanning receiver" has been revised. The term, under Part 15 of the Commission's regulations, now refers to a receiver that "automatically switches among two or more frequencies in the range of 30 to 960 MHz" and is capable of "stopping at and receiving a radio signal detected on a frequency." Granted, much could be debated about the technical and legal interpretation of "receiving" and "detected." The FCC goes on to say that "receivers designed solely for the reception of the broadcast signals under Part 73 . . . or for operation as part of a licensed station are not included in this definition." This should be good news for licensed hams. The definition of test equipment has been clarified as well. Such items are now said to be "intended primarily for purposes of performing measurements or scientific investigations." These include, but are not limited to, "field strength meters, spectrum analyzers, and modulation monitors." Your friends representing the cellular industry had wanted language that, in essence, would have defined test equipment as not marketed or sold to the general public, and for use by "professional technical personnel." The FCC didn't let that one fly. Such wording would have resulted in a mucky instance of confusing interpretations. Broadly, "professional" status is not determined by whether one does something for a living. (Check your dictionary!) The new rulemaking does *not* prohibit hobbyists from acquiring needed test equipment.

ET 98-76 continues the existing prohibition of scanners and frequency converters capable of tuning or "readily being altered" to operate on frequencies in the Part 22 Cellular Radiotelephone Service. Scanning receivers may not be capable of "converting digital cellular communication transmissions to analog voice audio." There is nothing new here. The Commission had added this language to Part 15 seven years ago in ET Docket 93-1, mandated by Congress in the Telephone Disclosure and Dispute Resolution Act! In fact, the recommended methods of precluding user modification are the same in ET 98-76 as they were in the 1993 docket. The specific prohibition of digital cellular reception remains redundant, since digital cellular transmissions are, by definition, within the prohibited cellular spectrum.

Added is a provision that "tuning, control, and filtering circuitry is inaccessible," with a requirement that an attempt at modification will likely result in an inoperable scanner. Modification to receive cellular transmissions will be considered "manufacture," and will void FCC certification. Also, new scanners will be required to reject cellular signals 38 dB or greater referenced to 12 dB SINAD. The 38-dB rejection clause may result in technically cleaner scanners throughout their operating spectrum. This depends on design methods chosen by manufacturers. In some cases, newer scanners will be less susceptible to adjacent channel rejection and to moderate front-end overload, commonly mistaken for intermodulation interference. Exceptions for receiving equipment for certain law enforcement and communications

system service personnel are provided in ET 98-76. Test equipment defined therein is categorically exempt from the docket's cellular filtering and anti-modification provisions mentioned above. The Commission has further declared that the home-brew device regulations in §15.23 do not constitute a basis for scanner modification. All new scanners will be required to bear a warning label, notifying consumers that modification to receive cellular signals is prohibited under FCC rules and federal law.

Two curious new major provisions remain, though. In one, scanner manufacturers must submit a statement describing design attributes to thwart scanning receiver modification for cellular frequencies. This is done when applying for type acceptance or type approval certification. The curious aspect is that information related thereto "will not be made available for inspection." The docket specifies such information to include schematic diagrams, among other things. What remains to be seen is how lack of basic information will affect product serviceability.

In another clause, the FCC reiterates a point it had established in ET 93-1. The key paragraph functionally banning cellular scanners (§15.37(f)), states that "This paragraph does not prohibit the sale or *use* of authorized receivers manufactured in the United States, or imported into the United States prior to April 26, 1994." (Emphasis added.) The curious aspect of this provision is that cellular reception on older *authorized* scanners might appear to be allowed, but this remains in direct conflict with the Electronic Communications Privacy Act (18 USC §2510 et seq.). Yet non-scanning receivers covering cellular frequencies appear to be acceptable for certification under ET 98-76. Amazingly, this docket fails to directly address the legality of using an external processor, such as a personal computer, to tune a single-channel receiver that does not meet the definition of a scanner. Nonetheless, never presume that anything in ET 98-76 authorizes anything prohibited elsewhere. As of this writing, the effective date of ET 98-76 has yet to be established.

Low Power Radio Service Update

The FCC has extended the comment and reply comment date on the proposed new Low Power FM (LPFM) service to June 1 and July 1, 1999, respectively. Although these dates will have passed by the time you read this, the status of this proposal, MM Docket 99-25, may have evolved in either direction, pro or con. Consequently, it is entirely possible that the proposal may still be on the table. The FCC almost routinely accepts informal and late-filed comments after the end of the comment period. At least one corporate commenter had asked for an extension date as late as October 11, 1999. The Commission could even consider a further extension of the comment periods. Such extensions will result in some delay in deployment of the new service, if approved. However, the extended period will also give those now wishing to express needed support, or dissent, time to do so.

That's it for the "Washington Beat" this time. Each month, I hope to feature one major issue of interest to communications hobbyists and consumers, and mention two or three other impending legislative or regulatory matters. If there are any particular concerns you would like to see me address, please E-mail me directly at <n3hoe@juno.com>. ■

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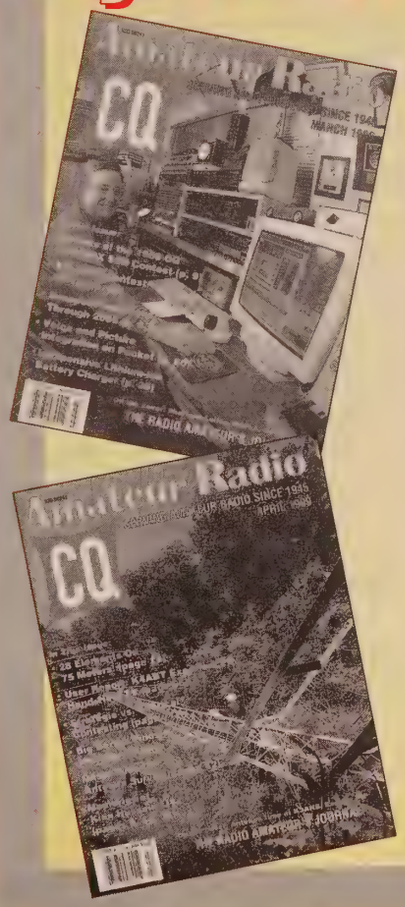

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Pop Comm P.O.

(from page 6)

the irresponsible CB operators who use Channel 9 for anything but an emergency (i.e. their personal channel) and the few teenagers (and those much older, but with the mentality of teens) whose goal is to harass and annoy those who operate responsibly. Would you consider volunteering to help in a public service capacity if you were hounded and harassed constantly? Probably not! The FCC is not adequately staffed to handle all the complaints regarding the 11-meter band. The ARRL turned their backs on CBers many years ago. And you or I have little effect on these illiterates. So, who is to blame?

I fear that unless the powers-that-be pool their resources and come up with a solution, REACT will become nothing but a fond memory to the 11-meter band. A sad statement, but a factual one. It is a shame that the actions of an ignorant few should ruin it for the many. My only hope is that those who disregard the law and eventually destroy REACT may never be in the position to need their services. For a cry of help is never answered when it falls on deaf ears.

Sincerely,
Randy L. Moyer, PA

Cutting Out All This Foolishness

Dear Editor:

Here's some more grist for the debate over the public's right to listen to certain radio signals. This subject has become a real political football. Let's get simple on this matter.

I've taken the position that if I want to keep the subject matter of my communications away from prying ears, whether on the radio, landlines, computers, etc., it is MY responsibility to scramble my signals. Unfortunately, scramblers are not generally available and because of this Congress is trying to limit the public's freedom to hear whatever it wants— even though the Communications Act of 1934 covers the problem. The Act does cover, but enforcement against violators is fully absent. And because enforcement is nil, Congress feels it must limit public freedom to achieve security for communications.

Should not manufacturers be encouraged to include scramblers as built-in capability? Should not the electronics industry provide outboard scramblers for equipment without built-in scramblers? Government mandated that all radio receivers for the consumer market be capable of hearing the standard broadcast band AND the FM band. Government mandated that all CB sets be capable of operating on 40 channels, rather than only 23. There is precedent for such requirements; why not apply them to scramblers and leave the listening to the public?

The enclosed article from the front page of the Washington Post describes the result of NOT having ALL communications equipment in the NATO forces in the Balkans properly equipped with security devices. But note that the effort is not directed at listeners, it is directed at the *originators* of the traffic.

The Communications Act of 1934 allows people to listen, but forbids divulging what is heard. What a sham! Radio magazines for years reported on what has been heard in traffic between ships, ships and shore stations, and all manner of monitored traffic. . . . why not scramble the originating signals and cut out all this foolishness? To quote from your June "Tuning In," "If a public safety or government organization wants secure communications, they flip a switch."

Well, I got that off my chest. Now what?
Henry Johnson, K4IPY, Virginia

Dear Henry:

Now write to your Senators and Congressional reps and tell them the same thing!

Guns 'N Scanners

Dear Editor:

Regarding your editorial in the March issue, as usual I agree with *Pop'Comm.* But, please take what follows in context.

I do not intend to criticize or condemn. Within the past year, I wrote a couple of letters to you about this subject, and I can say now I told you so. I'm a member of the National Rifle Association and am a target shooter. I do not own nor will I own a so-called assault weapon. I truly do not believe anyone needs this type of firearm, but I cannot state that opinion to politicians nor can I support legislation to control assault weapons. If I do, the gun grabbers use the common sense approach to take *all of my guns,* including my target rifles.

For some reason, at this point in time, the politicians seem to sink to the lowest level. Why do I refer to the above? The politicians are using the same tactics to control radio-related things just like they do gun-related. First, they demonize the thing they go after. Next, they demonize the people involved. They put together phony data and statistics. They never quit because their end motive is to confiscate and totally control. Politicians are control freaks. They also basically are empty suits. They employ a group of sick weirdos for staffers who sit around figuring how to hassle the public, so they attack radio and radio hobbyists the same way as gun and shooting sports enthusiasts.

The politicians will sneak in under the tent wall. First, they will outlaw 25-foot antennas and 40-channel radios. Next, they will outlaw 24-foot antennas and 39-channel radios, etc. And if the ARRL thinks for one minute they will escape, they could not be more wrong.

I guess, Harold, just keep sending the message and hoping someone will hear it. You do well. Bravo!

73,
Terry Jones
South Dakota

Fine Tuning The Alinco DJ-X10T

Dear Editor:

After my review of Alinco DJ-X10T wideband receiver appeared in the January *Pop'Comm,* I came up with a very minor alteration that makes a really fine radio even easier to use. I'd like to pass it along to your readers who also have DJ-X10Ts.

I never liked tuning with the small, pointy tuning knob on top of the radio. Noting one day it had no set screws, I gave it a gentle tug and it slipped right off, revealing a shaft just under 1/4 inch in diameter. My junk box yielded a 3/4 inch diameter cylindrical knob with the proper size hole, and after tightening the set screw to keep it in place, "Eureka!" — it was like adding bandspread tuning to a general coverage receiver!

If you don't have such a knob in the junk box, try RadioShack — they're sure to have one that works.

73, Joe Schroeder, W9JUV

Intentional Jamming?

Dear Editor:

I would like to address March '99 letter, "The Technology Leader" from Mr. Lent. I am an amateur operator, and also an avid SWLer. I enjoy listening to Shuttle broadcasts, but if an amateur is interfering with a broadcast, I find a new frequency. In my area, the broadcasts are

done on UHF and VHF, as well as many HF bands. If a station comes on the air and asks if the frequency is in use, my conclusion would be that he/she could not hear the Shuttle broadcast. During an amateur contest, it is not unusual for stations to be 2 kHz (or less) away from each other. Therefore, I do not understand how this can be classified as "intentional jamming." Just because the station received 40+ signal reports, there is no need for him to turn down his power. In fact, he may have been using low power with an incredibly efficient antenna system. Or, the reports may have come from U.S. stations and the operator was hoping to work DX. According to the FCC, you may use the least amount of power required to carry out the desired communication. What was the operator trying to do?

As for CW, you can in fact get a license without learning Morse code, so CW is not "the only way." Currently, the FCC is looking into restructuring the testing process. The net effect would be to have the U.S. license structure more in line with other countries. CW requirements would be substantially reduced, but not eliminated. Pity Mr. Lent cannot receive Morse code. If he could, he would quickly find that the vast majority of outstanding operators DO NOT live in this country. As I write this, I am looking at "my key." It could use a good dusting, and I am an Extra class operator.

Best Regards,
James Giercyk, N2SUB
PG-GB-015152

Mindless Yakking?

Dear Editor:

I have read the back-and-forth exchanges regarding the no-code ham license, and now the proposals to eliminate code altogether as a requirement to become a licensed ham. Well, if the old codger hams want to take ham radio to the grave with them, fine by me. I can guarantee the old coots that in the next millennium, no ships at sea will call for help using Morse code. I can also guarantee that nobody will depend on Morse code using a ham frequency to save their life in any way.

Ham radio zealots like to brag about how technologically-advanced ham radio is, and how important hams are to the big scheme of things. Just because you can buy a ham radio and be on the air does not make you a technological whiz anymore. People have decreasing interest in Morse code, and as a result, ham radio numbers are declining. This is good for commercial radio spectrum users. Remember the 220-MHz ham band? When ham bands are not used, they get bought by commercial interests who are willing to pay for the spectrum.

The HF bands are not immune either. There is a shortage of frequencies for shortwave broadcasters, and hams won't pay for the bands like shortwave broadcasters will. It is unfortunate, but in this day and age, FCC stands for Federal Cash Cow. If the FCC can make money auctioning off underutilized ham radio spectrum, it will.

I have no interest in becoming a ham, and probably never will. As a professional radio broadcaster, I do not consider mindless yakking on a ham radio a worthwhile hobby. Keep the Morse code requirements for all the ham bands, and I assure you, I won't be getting on the air to discover otherwise. If you just HAVE to prove to your fellow hams how proficient you are, keep the code requirement for the Extra class only.

Paul Shinn

Ham Radio Needs YOU?

Dear Editor:

In response to Michael Brown's letter in the June issue, I ask: Code vs. No Code again? Mr. Brown states: "I can pass the technical portion of the test with ease — and I have even elmered three people into amateur radio. But I will not get a ticket until the code is dropped."

Don't hold your breath Mr. Brown. The IARU and ITU have no intention of dropping the code requirement in the foreseeable future. Funny thing though, I am a ham, don't know code, but have full privileges above 30 MHz. How did I do it? I have a Technician class license, that's how! Having this under my belt, I don't understand his point, but do understand his attitude. "They need people like me. I don't need them." Actually Mr. Brown, you DO need us to show you what amateur radio is really all about, but with your bad attitude we certainly don't need YOU!

73 de Warren, KB2VXA

The $64 Question

Dear Editor:

I have been a *Popular Communications* reader for a number of years. You folks have always been willing to take a stand on an issue. You also will knock a product if it doesn't live up to a certain standard. Perhaps you will be willing to tackle this question. Why in the world don't Uniden and RadioShack advertise in *Popular Communications?* It would be helpful to me if they did. It would be an additional source for me to make comparisons of the available products. Plus, they would then be active in giving support to you, as well as to those of us who enjoy the hobby. It has always puzzled me why they don't.

Stuart Buchmann
Clay Center, Kansas

Dear Stuart:

In a smoky corner of our Pop'Comm "Wonder Why" Department, we were wondering the same thing. Truth is, RadioShack is a "sometimes" advertiser, but Uniden is conspicuously absent for reasons known only to the folks at Uniden. I've always believed that the major players in our hobby should be with us every month, showing the latest and greatest scanners, antennas, and CBs. Hello, Uniden?!

Remembering WGY

Dear Editor:

Radio station WGY in Schenectady, New York, mentioned in a recent "Broadcast DXing" column, brings back a flood of childhood memories. I was born in Schenectady in "the roaring twenties," and as a kid, all we talked about was radio, radio, and more radio. Station WGY and the nearby General Electric plant were pioneers in radio. Indeed, some of our neighbors and acquaintances were famous developers of both radio and television.

However, I was not allowed to own a radio of my own because my older brother's crystal set malfunctioned and caused a minor fire. It would be years before I owned my own portable (an Emerson which looked like a book and worked when you opened the book!). I did not bother with a shortwave receiver until I was over 40 years old. Naturally, it was a Zenith Trans-Oceanic.

My oldest WGY memory is one of me as a great big first-grader, taking part in a school play about Thanksgiving and our class being taken to the station to broadcast the play live on WGY. I still remember my one-line part, "Look, the Indians are coming!"

Milton L. Kosberg
Palm Springs, California

Product Parade

(from page 43)

chassis and a large cooling fan. Backlighting of keys and switches also allows convenient use during nighttime operation; the intensity of light is also fully adjustable.

The IC-706MKIIG has a remote control faceplate and measures only (HWD) 2.3" x 6.6" x 7.9" and with an optional 11 or 16 foot separation cable, you can put the main unit in the trunk of your car, under the seat, or under the dash while having all the controls right at your fingertips.

The suggested retail of the new IC-706MKIIG is $1,680. For more information, contact ICOM America, Inc., 2380 116th Avenue NE, Bellevue, WA 98004 or call 425-454-8155. To request a free brochure on the IC-706MKII or the IC-706MKIIG, please call 425-450-6088. Visit the ICOM Website at <http:// www.icomamerica.com>.

New Alinco 2-Meter HT

Alinco USA has just released the brand new DJ-195T, which operates on the 2-meter ham band, 144–148 MHz. The new HT features alphanumeric display, up to 5 watts power output, 40 memories, receive coverage from 130–174 MHz, CTCSS encode and decode, Digital Code Squelch (DCS), autodialer memories, and much more.

Alinco's new 2-meter rig, the DJ-195T has lots of new, exciting features!

The new DJ-195T includes a unique theft alarm that, when activated, sounds when the unit is removed from an external power source, such as in a mobile environment. Alinco has also included an experimental "mosquito repel" feature that may keep the annoying insects away from the vicinity of the radio through the emission of an electronic tone. Katsumi Nakata, KE6RD, Alinco USA Branch Manager said, "The mosquito repel feature could make the DJ-195T the first radio capable of de-bugging a Field Day operating position."

Doug Wynn, Sales Manager for Alinco USA said the features included in the radio reflect input gathered from hams. Additional features include standard high-output (5 watts) battery, 13.8 Vdc direct input, cable cloning, BNC antenna connector, European tone bursts, autodial memories, and MARS/CAP capability.

The DJ-195T carries a suggested retail price of $289. For more information, contact Alinco USA at 438 Amapola Avenue, Suite 130, Torrance, CA 90501 or phone 310-618-8616.

New MFJ Receiver Is Perfect For Travel

MFJ Enterprises, Inc., announces the release of their new MFJ-8121 21-Band World Band receiver. The portable radio operates FM, MW, LW, and shortwave 1–18 MHz. The radio has a built-in telescopic antenna (6-inches collapsed, 26-inches fully extended) and a Sony integrated circuit design from Japan. The radio's multicolored tuning dial and LED tuning indicator (brightly lit red when your desired station is tuned in) make tuning a breeze. The MFJ-8121 has a smooth tuning bandswitch that makes it easy to glide across the bands while looking for some new exotic station.

Additionally, a detailed World Time zone and frequency chart is permanently silkscreened on the back panel. The radio has a large three-inch speaker which is automatically disconnected when you use earphones for private listening.

The radio operates on 6 Vdc or four "AA" batteries (not included). The MFJ-8121 is a compact (HWD) 4.5" x 7" x 1.5". It sells for $39.95 from MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762. Phone 601-323-5869 or FAX 601-323-6551. Visit their Website at <http://www.mfjenterprises.com>.

The MFJ-8121 portable receiver covers AM, FM, LW, and SW frequencies.

Power FOUR Radios At The Same Time!

The new MFJ-1117 power strip is similar to MFJ's most popular power strip accessory, the MFJ-1118, but can power up to *four* different HF or VHF radios at the same time. Unlike the MFJ-1118, it doesn't have a built-in voltmeter, power LED, or on/off switch. Two pairs of super-heavy duty five-way binding posts connect your transceivers.

The new strip has one 35 amp single post (35 amps total) and one 35 amp dual post (35 amps together). Binding posts are spaced for standard dual banana plugs.

The power strip is a small (HWD) 2" x 8" x 3" and includes six-feet of super heavy-duty, 8-gauge, color-coded cable with ring-tongue terminals. The unit is constructed of heavy duty aluminum. The MFJ-1117 sells for $49.95 from MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762. Phone 601-323-5869 or FAX 601-323-6551. MFJ sells other power strip outlets ranging from $29.95 to the 1118 at $69.95.

MFJ's new MFJ-1117 power strip can power up to four radios!

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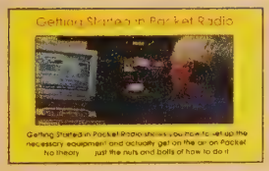

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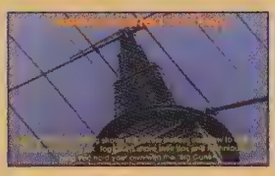

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CQ Books

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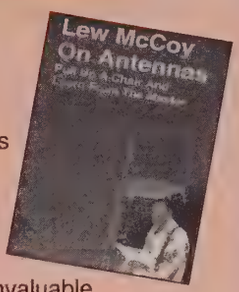
by Lew McCoy, W1ICP



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by Bob Haviland, W4MB

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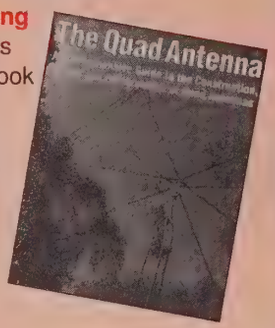

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1. E.F. Johnson Messenger III - seems OK, no mic, has power cord **2.** Johnson III - has power cord and mic, doesn't power up **3.** Johnson Messenger 100 has power cord and mic, no audio **4.** Johnson 120, 120A, 121A, 122 (2) - units are "shell" only, with all switches and controls - good for providing a new case for a re-built unit. **5.** Johnson 123A (7 units) - most check OK, but have no mics, and the mid is in the receive circuit of this unit. **6.** Johnson 123 SJ (2 units) - same as 123A except works on positive OR negative ground systems, no mic, should be OK **7.** Johnson 124M - base unit - dummy **8.** Johnson 125 - has mic, no receive, OK otherwise **9.** Johnson 125 - dummy unit **10.** Johnson Messenger 130 - telephone type unit - has minor short on power line **11.** Johnson 132 (2 units) a telephone type handset **12.** Johnson 191 - no mic, should check OK **13.** Johnson 223 - dummy case - will make new unit of a re-built one. **14.** Johnson Messenger 250 - no mic **15.** Johnson Messenger 320 (2 units) super mobile unit - no mic **16.** Johnson Messenger 323 - has mic, doesn't power up **17.** Johnson Viking 4125 - no mic, powers up **18.** Johnson Viking 4170 - no mic, powers up **19.** Johnson 352 - powers up - no mic **20.** Sonic - checks good **21.** Hallicrafters CB-14 - checks good **22.** Hallicrafters CB-21 - checks fair

23. Hallicrafters HCM-261 - poor rec., OK otherwise **24.** Cadre 510A (2 units) both power up, but need service **25.** Cobra CAM-88 - needs service **26.** Craig L102 - powers up **27.** Demco Travelier - needs tune-up **28.** Echo "99 ER" - powers up

29. Courier 23-ECI - no mic, checks OK **30.** Globe 9001 - powers up OK **31.** Great GT-418 **32.** Hi-Gain 671-A - needs work **33.** J.C. Penney 6217 - powers up OK, no mic **34.** J.C. Penney 6220 - powers up, has mic, OK **35.** Lafayette Comsat 25 - needs work, missing couple of tubes **36.** Metrotek Pacer II - powers up OK **37.** Midland 13-882B - needs work **38.** Midland 100M - checks good **39.** Citi-Phone 55 by Multi-Elmac - powers up OK **40.** Pace 123A (2 units) - doesn't power up **41.** Pace Sideband "sidetalk" 1000M - powers up **42.** Pace 2000-A - powers up **43.** Pace 2300 - powers up **44.** Panasonic RJ-3100 - powers up OK **45.** Polytronics PolyCom Senior 23 - needs service **46.** Polytronics PolyCom II - doesn't power up **47.** Ray Jefferson CB 705 - powers up, no mic **48.** Ray-Tel TWR-2 - doesn't power up **49.** Ray-Tel TWR-7 (2 units) **50.** Ray-Tel TWR-9 - powers up, needs tuning **51.** Realistic 40 - powers up, needs tuning **52.** Realistic TRC-30A - powers up, needs tuning **53.** Realistic TRC-424 - powers up, no modulation **54.** RME 4305 - needs service, clean unit **55.** Royce 1-602 - doesn't power up **56.** Royce 1-620 - doesn't power up **57.** Royce 1-650 - powers up, needs repair **58.** Sharp CBT-58 - powers up, needs repair **59.** Sharp CB-2460 - powers up, no modulation, needs repair **60.** Sonic CT-121 - doesn't power up **61.** Teaberry Titan "T" - powers up **62.** Tram D-42 - powers up, no modulation, good receive **63.** Courier 23 - base unit **64.** Realistic Navaho TRC-30A **65.** Rystl-CBR1800 - mobile, 23 channels. And other miscellaneous units.

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The Loose Connection

BY BILL PRICE, N3AVY

RADIO COMMUNICATIONS HUMOR

Norm The Ripper

My friend Norm recently had a chance for an "eyeball QSO," a face-to-face meeting with a long-time ham-radio contact in England. Norm was traveling there on business, and when he found he was going, he called Neville, (not *his* real name either) to let him know he was coming (and to avoid costly hotel bills in the true ham tradition of frugality).

"Oh, wonderful! So glad you'll be able to come. You'll stay with me, yes?" Neville said.

"So long as it'll be no trouble, old man," he said. "Think the XYL will be OK with that?" he asked.

"I'm afraid I haven't had an XYL for quite some time. Didn't care for my radios, I guess. It's just me and the cat now. Look forward to meeting you."

Neville said he'd make arrangements to get Norm at Heathrow. Norm couldn't believe his good fortune. When he arrived at Heathrow on Saturday, Norm saw his name on a neatly-prepared sign on the UK side of the customs checkpoint.

"Neville?" Norm said to the man with the sign.

"Norm?" the man replied.

"Glad to meet you, old man," Norm said. "Finally, after all these years. I have to admit, though, your voice doesn't sound the same without the single-side-band sound-effects."

"Oh, I'm afraid that's because I'm not Neville. I'm his cousin, Ian. He's been called away 'til Monday morning. Asked me to drop you by his place and make sure you had the keys to his house and car. Said to eat what you'd like, have fun with the radios — just be sure to feed the cat and if you use the car, just remember to keep to the left."

Norm was perhaps the staunchest supporter of the "ham radio fraternity" and the goodwill it was known for, but this gesture even left him a little speechless. Ian dropped Norm at the house. "Here's my number," Ian said. "Just ring me up if you need help — I know we speak the same language, but it can get confusing here if it's your first time." Norm thanked him again, and said he'd call if there were any problems. He turned the key in the door, stepped inside with his bags, and couldn't believe his good fortune. There were notes from Neville everywhere.

"Use the ham-shack, Norm. I'm sure it's all familiar to you — Neville."

While others might raid the liquor cabinet, Norm raided the ham shack. Norm switched the equipment on and the HF transceiver began to talk to him. He wondered how long he could operate — logging rare DX — before he'd have to get some sleep for his Monday morning appointment. He'd worry about that sometime tomorrow. He wanted to see what kind of antennas Neville had, so he stepped out the door to a patio. As he opened the door, Neville's cat, a big white long-haired variety, zipped past him like lightning seeking a ground. It was then Norm saw the note on the door. "Don't open this door — the cat gets out and it's hell to catch him again. Whatever you do, don't let him out — he's a runner and they know him at the pound. I'm up for a big fine if they catch him again — Neville."

Norm started after the cat who ran around the garage and was gone — completely out of sight, and Norm, being a realist, merely set out some cat food and hoped for the best. He saw a nice beam on the garage roof, but noticed a lot of greenish stuff where the leads fastened to the driven element. It looked like corrosion to him.

Still agile enough to climb, Norm got the ladder from the garage and climbed up to clean up the connections. He had a Leatherman pocket tool on his belt, and that would be all he needed. He was able to clean up the connections in a moment, and as he put his foot onto the top rung of the ladder, he saw the cat on the neighbor's garage roof, just 10 or 15 feet (or three pounds, tuppence) from Neville's. He was going to pull up the ladder and lay it across to the neighbor's roof, but realized he could just climb down, move the ladder to the neighbor's garage roof, and carry some cat food up with him, so he moved the ladder and carried up some "Rodent-Grille, by appointment of the Queen" to catch old Tabbie.

You or I or a hundred normal people would have knocked on the neighbor's door, introduced ourselves, and asked if it would be OK to chase the cat. Norm thought urgency was more important than formality, and always believed it was easier to beg forgiveness than to ask permission. The cat knew this, and ran under Norm's legs as he stepped off the ladder onto the neighbor's roof. As Norm watched the ladder fall to the soft ground below, memories of a similar incident in New Hampshire replayed vividly before him. He looked for pebbles to throw at the neighbor's windows.

Why he chose to use a British accent when he called to the two ladies passing on the sidewalk is beyond even his own ability to comprehend, and he still doesn't remember *exactly* what he said, but he remembers trying to sound like Cary Grant and asking the ladies if they'd help him with "this bleedin' cat of Neville's." He can only guess that it must have sounded offensive to the women.

Bobbies are a polite and understanding lot, but they too are not without senses of humor, so our roof-hopping friend spent 23 hours (he suspects that's the limit without charges) answering questions to no less than 10 different constables. Norm swears he heard them laughing out in the hallway, saying things like "Let's see if he'll confess to being Jack the Ripper!" and "I'll bet if you push him, he'll tell you where he hid the Lindberg Baby. Let's ask him again where he got the spy radio."

He paid the cat's fine, put the cat back into the house, and gathered his things. Though he headed for a hotel, he saved having to explain the events by leaving a note that he'd been called home for an emergency. He tells me he'll probably never accept hospitality again, but he's coming for supper tomorrow. I wonder if I should be here when he arrives. ■

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